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TRANSIENT TEMPERATURE FIELDS IN SHELLS

by M. D. Mikhaylov

Energiya Press, Moscow, 1967

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TRANSIENT TEMPERATURE FIELDS IN SHELLS

M. D. Mikhaylov

ABSTRACT: The monograph discusses the theory of transient one-dimensional heat conduction processes occurring in plane one- and two-layer plates at various boundary conditions on the skin and the heat-resistant coating. Solutions are given for transient temperature fields in porous walls cooled by a forced flow of a cooling medium. Formulas for determining thermal stresses are also given. Detailed tables of the roots of characteristic equations and initial temperature amplitudes facilitate the use of these equations in practical computation. The solutions may be applied to designing heat shields in aircraft and rockets, or to other branches of engineering. The book is of interest to a wide range of heat transfer engineers and graduate students.

FOREWORD

Heat transfer in a solid interacting with its environment can be thoroughly studied and analyzed by means of the theory of heat conduction. The theory was first introduced by Fourier in his classic book [1]. Gigantic strides have been made since, and now the theory deals with one of the most thoroughly studied aspects of mathematical physics. /3*

Certain processes in contemporary technology involve such intense heat generation as to cause the collapse of strength and hardness of the hollow shell (skin). This can be prevented by devising a suitable method of thermal shielding [2] such as the application of a heat-resistant coating to the skin, or cooling of its internal surface, known as porous cooling.

This monograph investigates the transient temperature fields encountered in such cases. Formulas are given for determining thermal stresses. The problems are solved by Laplace transformation. Inversion can be performed in two ways [3, 4]. One way is to calculate the integral over a complex plane within the poles of the integrated function. The position of the poles is determined from the roots of the transcendental equation. This method yields the conventional solution in the form of infinite series with exponential terms vanishing in time, which involves cumbersome computations. This is why, unfortunately, these solutions are regarded as inapplicable in engineering practice. This view however, disregards the possibilities of modern computer technology.

*Numbers in the margin indicate pagination in the foreign text.

The other method of inversion involves the expansion of the integrated function in an exponential series. It requires finding the roots of transcendental equations and leads to solutions which converge well for small time values, as a matter of fact, they converge the better, the smaller the time. /4

In this monograph the problems are solved by both methods. The solutions were tabulated by the electronic computer "Minsk-2." Detailed original tables of the roots of characteristic equations and initial temperature amplitudes are attached. In most cases the solutions have also been represented graphically. All this facilitates the carrying out of swift engineering computations.

The solutions of all problems are given in dimensionless form, best suited to show the intimate relation between different physical processes. Hence the tables can be used also for computing some problems in diffusion and heat and mass transfer, for example, such as cooling of metal castings in sand molds, etc.

The author is indebted to Academician (of the Bielorussian Academy of Sciences) A. V. Lykov for inspiration and support. He thanks his friends N. Tsacheva-Glushkova and L. K. Glushkov for their help in programming and carrying out the computations.

M. D. Mikhaylov

SYMBOLS

$T(x, \tau)$ — temperature at a point with coordinate x at time τ; /5

a — coefficient of thermal diffusivity;

∇^2 — Laplace operator;

w — absorbed or generated heat per unit time per unit volume;

c — specific heat;

γ — density;

l — thickness;

T_r — recovery temperature;

T_c — recovery temperature for cruising conditions;

λ — coefficient of thermal conductivity;

q — heat flux;

α — heat transfer coefficient;

s — Laplace transform parameter;

$i = \sqrt{-1}$ — imaginary number;

$\xi = x/l$ — dimensionless coordinate;

$\mathrm{Bi} = \alpha l/\lambda$ — Biot number;

$\mathrm{Fo} = a\tau/l^2$ — Fourier number;

σ — thermal stress;

β — coefficient of linear expansion;

E — Young's modulus;

T_0 — initial temperature;

$\theta = \frac{T(x, \tau) - T_0}{T_c - T_0}$ — dimensionless temperature;

$\theta = \frac{T(x, \tau) - T_0}{T_0}$ — dimensionless temperature for the case where T_r is a linear function of time;

$K = \frac{c\gamma l}{c_m \gamma_m l_m}$ — dimensionless number characterizing the ratio of the heat storing capacity of the insulation to the heat storing capacity of the metal layer; /6

$\mathrm{Kl} = \frac{ql}{\lambda (T_c - T_0)}$ — Kirpichev number;

$\mathrm{Pd} = bl^2/a$ — Predvoditelev number for the case where T_r is an exponential function of time;

$\mathrm{Pd} = bl^2/aT_0$ — Predvoditelev number for the case where T_r is a linear function of time;

T_∞ — temperature of undisturbed air flow;

r — recovery coefficient;

$\varkappa$ — specific heat ratio at constant pressure and volume;

$\mathrm{M} = v/a^*$ — Mach number, where v is the velocity of the craft, and a* is the speed of sound;

$\delta_k = \frac{T_k}{T_c - T_0}$ — dimensionless number [Eq. (4-8-3)];

$\beta_k = d_k l^2/a$ — dimensionless number [Eq. (4-8-3)];

G_c — specific mass velocity of incident gas flow;

c_c — specific heat of gas;

$g = G_c c_c l/\lambda_w$ — dimensionless parameter of coolant mass velocity.

Subscript m refers to the metal layer.
Subscript w refers to the porous material.
Subscript c refers to gas.

1. BASIC EQUATIONS

Convection, conduction and radiation are the basic processes of heat transfer [5]. Purpose of this book is to investigate the convective heat transfer in shells. It is assumed that the heat enters the shell by means of the other two forms of heat transfer. /7

The relation between temperature, time and distance follows from the solution of the differential Fourier equation [3]

$$\frac{\partial T}{\partial \tau} = a \nabla^2 T + \frac{w}{c\gamma}, \tag{1-1}$$

In the shells investigated below, the ratio of thickness to the radius of curvature is so small that they can be regarded as plane plates. If thickness of shell is considerably smaller than its other two dimensions, it can be assumed in most cases that the heat flow is normal to the surface.

For uniform heat flow, Eq. (1-1) takes the form

$$\frac{\partial T(x, \tau)}{\partial \tau} = a \frac{\partial^2 T(x, \tau)}{\partial x^2} + \frac{w}{c\gamma}. \tag{1-2}$$

The boundary conditions must be known to determine the temperature field. We shall investigate three different ways of assigning boundary conditions

$$T(l, \tau) = T_r; \tag{1-3}$$

$$-\lambda \frac{\partial T(l, \tau)}{\partial x} + q = 0; \tag{1-4}$$ /8

$$\lambda \frac{\partial T(l, \tau)}{\partial x} + \alpha [T(l, \tau) - T_r] = 0. \tag{1-5}$$

The heat transfer coefficient depends on many factors: the type of cross section in the boundary layer, the velocity, pressure and temperature gradients in the boundary layer and on the surface of the body, etc. Therefore, it is not a constant; in this book, however, in the first approximation it is taken to be invariable. This is a commonly used device.

2. THE LAPLACE TRANSFORMATION

The problems studied in this book are solved by the integral transformation introduced by Laplace in 1779 [6]:

$$\bar{f}(s)=\int_0^\infty f(\tau)e^{-s\tau}d\tau=L[f(\tau)], \tag{2-1}$$

where $s=\sigma+i\omega$ is a complex quantity.

This transformation was successfully used for solving heat conduction equations [3, 4]. By using

$$L[f'(\tau)]=s\bar{f}(s)-f(0), \tag{2-2}$$

instead of the differential equation (1-2) in partial derivatives with respect to the original function we get an ordinary second-order differential equation with constant coefficients with respect to the transform. The general solution to this equation has two constants determined from the corresponding boundary conditions. Upon solving the problem by transforms, the inversion is carried out by

$$f(\tau)=\frac{1}{2\pi i}\int_{\sigma-i\infty}^{\sigma+i\infty}e^{s\tau}\bar{f}(s)\,ds. \tag{2-3}$$

It is quite easy to find the original from the transform of the function if it can be found in the tables [7]. A table of transforms used in this book is in the Appendix. /9

Occasionally the transform $\bar{f}(s)$ can be taken to be the ratio of two polynomials with respect to s. If the denominator has simple roots s_n and its degree is higher than that of the numerator, then the original can be found from the expansion theorem

$$f(\tau)=L^{-1}\left[\frac{\Phi(s)}{\psi(s)}\right]=\sum_{n=1}^{n}\frac{\Phi(s_n)}{\psi'(s_n)}\exp(s_n\tau). \tag{2-4}$$

If the root $\psi(s)-s_m$ has a multiplicity k, the original of the corresponding term can be found from the formula

$$f(\tau)=\frac{1}{(k-1)!}\lim_{s\to s_m}\left\{\frac{d^{k-1}}{ds^{k-1}}\left[\frac{\Phi(s)(s-s_m)^k}{\psi(s)}\exp(s\tau)\right]\right\}. \tag{2-5}$$

The expansion theorem holds even when $\bar{f}(s)$ is the ratio of transcendental functions $\Phi(s)$ and $\psi(s)$ which can be represented as polynomials of infinitely high degree with respect to s:

$$\Phi(s)=b_0+b_1s+b_2s^2+\ldots;$$

$$\psi(s)=a_0+a_1s+a_2s^2+\ldots,$$

if constant a_0 equals zero when $b_0\neq 0$.

3. METAL SKIN WITH AN INTERNAL HEAT INSULATING LAYER

Modern aircraft fly at speeds several times greater than the speed of sound. Drastic air compression and friction of skin with air release large amounts of heat. The boundary layer is heated to high temperatures, and this generates nonuniform temperature fields and thermal stresses in the skin [8]. /10

During short flights the thermal insulation under the skin can protect inner sections from overheating. This means that, roughly speaking, on the boundary layer between skin and insulation the heat flow is fully retarded. Such an approximation facilitates the mathematical solution of the problem since it amounts to solving the problem of symmetrically heated plates.

The temperature field of a symmetrically heated plate has been thoroughly investigated by heat conduction theory [3]. The analytical solution determines the plate's dimensionless temperature at a constant temperature of the surrounding medium as a function of the Biot number, the Fourier number and the dimensionless coordinate ξ. The formula for $\xi = 0$ and $\xi = 1$ was numerically solved by Gröber [9, 10] and given in diagrams [10] in which the Bi values are plotted on the abscissa with Fo a parameter. Bachmann [11] continued these computations, and in his diagrams the quantity Bi^2Fo is plotted on the abscissa with Bi as a parameter. Heissler [12] computed dimensionless temperature θ for a wider range of Bi and Fo numbers, and plotted Fo on the abscissa taking Bi as a parameter. Nomograms for determining temperatures on the surface and in the center of a plate were compiled by Budrin [13]. Similar graphs for $\xi = 0.2$; 0.4; 0.6; 0.8; 1 are given in [14]. This fundamental problem of unsteady heat conduction was solved recently by an electronic computer. The results are given by Grigull [15], [16].

Thermal stresses are determined by using the analytical solution for the temperature field of a symmetrically heated plate. In [8] T_r and α are taken to be constant. For the case of a plate fastened, which precludes bending, [17] gives the curves of stress variations on the heated surface for $0 \leq Fo \leq 0.2$ for different Bi values. In the same work one can find the curves for changes in maximum stress on a heated surface in terms of the Biot number. These stresses on a heated surface are the highest in a plate. Reference [18] gives the curves of stresses on a heated surface in terms of the Fo parameter for /11 both a loose plate and a fastened one to prevent bending. Reference [19] studies the case of T_r linearly changing in time for α = const; here, both T_r and α change linearly. The solution given in [20] is closest to reality and, therefore, most complicated. T_r and α are represented as the sum of a constant and two exponential functions with a negative exponent proportional to time.

The author of [20] makes the same error as the one in [21], which has been noted in [22].

We are not giving the solutions for this chapter because they are a special case of solutions discussed below.

4. METAL SKIN WITH OUTER HEAT INSULATING LAYER

Solid fuel rocket engines are used for booster rockets, flight boosters and missiles. They develop a tremendous thrust in a very short time. Charges burning on lateral surfaces intensely heat chamber walls.

New high-melting alloys for operations at temperatures above 1000°C have been investigated recently, but they do not satisfy simultaneously all the technical requirements. Thus, high heat resistance may be coupled with brittleness or intense oxidizability of the surface.

Heat-resistant coatings may be used to protect metal walls [23], and the skin of aircraft [2] from heating. To determine the practical value, one must calculate the temperature of the metal wall protected by the coating and establish the magnitude of thermal stresses. Such stresses exist in steady or transient temperature fields if the temperature differs from the initial one.

4-1. Mathematical Formulation of the Problem /12

The problem is represented graphically in Fig. 1. The temperature field of the insulation is described by Eq. (1-2) for $w=0$:

$$\frac{\partial T(x,\tau)}{\partial \tau} = a\frac{\partial^2 T(x,\tau)}{\partial x^2}. \qquad (4\text{-}1\text{-}1)$$

The initial temperatures of the metal and of the insulation are the same

$$T_m(0) = T(x,0) = T_0. \qquad (4\text{-}1\text{-}2)$$

There is an ideal thermal contact between the metal skin and the insulating layer, hence the temperatures in both layers at all contact points are identical

$$T_m(\tau) = T(0,\tau). \qquad (4\text{-}1\text{-}3)$$

Because of the high heat conduction of the metal, the temperature of the metal wall is virtually identical at all points. The heat flow between the metal wall and the environment is negligible.

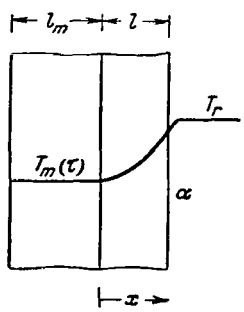

Fig. 1.

Thus, all the heat transferred through the insulation is stored by the metal. The heat balance equation yields

$$-\lambda\frac{\partial T(0,\tau)}{\partial x} + c_m\gamma_m l_m\frac{dT_m(\tau)}{d\tau} = 0. \qquad (4\text{-}1\text{-}4)$$

At the initial time ($\tau=0$) one of the conditions (1-3), (1-4) or (1-5) is fulfilled on the surface $x=l$.

To determine thermal stress it must be assumed that the plate is loose (not rigidly held) and free of mechanical stresses. Interaction between elasticity field and

temperature field is negligible [24, 25, 26], hence the problem of temperature distribution is investigated separately, independently of stress analysis. Since the rate of change of the temperature field is small in comparison with the velocity of sound, thermal stresses are determined by the temperature distribution at a given time without taking the inertial forces into account. The latter correspond to the motion of skin particles during variable thermal expansion. According to the initial condition of the thermoelasticity problem /13

$$\sigma_m(0)=\sigma(x,0)=0. \tag{4-1-5}$$

Assuming that temperature distribution in the insulating (refractory) layer is uniform and equal to mean temperature $T_1=\frac{1}{l}\int_0^l T(x,\tau)\,d\tau$, the stresses in the layers can be calculated from the following equations [27]:

$$\frac{\sigma_m}{E_m}-\beta_m[T_m-T_0]=\frac{\sigma_1}{E}-\beta[T_1-T_0]; \tag{4-1-6}$$

$$\sigma_m l_m+\sigma_1 l=0. \tag{4-1-7}$$

However, since the temperature distribution in the refractory layer is not uniform, the stress is

$$\sigma(x,\tau)=\sigma_1+\beta E[T(x,\tau)-T_1(\tau)]. \tag{4-1-8}$$

Equations (4-1-1) to (4-1-8) can be written in dimensionless form

$$\frac{\partial\theta(\xi,\mathrm{Fo})}{\partial\,\mathrm{Fo}}=\frac{\partial^2\theta(\xi,\mathrm{Fo})}{\partial\xi^2}; \tag{4-1-9}$$

$$\theta_m(0)=\theta(\xi,0)=0; \tag{4-1-10}$$

$$\theta_m(\mathrm{Fo})=\theta(0,\mathrm{Fo}); \tag{4-1-11}$$

$$-K\frac{\partial\theta(0,\mathrm{Fo})}{\partial\xi}+\frac{d\theta_m(\mathrm{Fo})}{d\,\mathrm{Fo}}=0. \tag{4-1-12}$$

The stresses are determined from

$$\frac{\sigma(x,\tau)}{\beta E[T_c-T_0]}=$$

$$=\theta_1(\mathrm{Fo})\frac{1-\frac{\beta_m}{\beta}\frac{\theta_m(\mathrm{Fo})}{\theta_1(\mathrm{Fo})}}{1+\frac{lE}{l_m E}}+\theta(\xi,\mathrm{Fo})-\theta_1(\mathrm{Fo}). \tag{4-1-13}$$

4-2. Uniform Surface Temperature of the Coating /14

An approximate solution to this problem is given in [28]. We shall examine the exact solution. Carrying out Laplace integral transformation of Eq. (4-1-9) and noting Eq. (4-1-10) we get

$$\frac{d^2\bar{\theta}(\xi,s)}{d\xi^2}-s\bar{\theta}(\xi,s)=0. \tag{4-2-1}$$

The general solution to this equation can be written as

$$\bar{\theta}(\xi, s) = C_1 \operatorname{ch}^{*} \xi \sqrt{s} + C_2 \operatorname{sh} \xi \sqrt{s}. \qquad (4\text{-}2\text{-}2)$$

Equation (1-3), written in dimensionless form, is

$$\theta(1, \mathrm{Fo}) = 1. \qquad (4\text{-}2\text{-}3)$$

To determine constants C_1 and C_2 we use boundary conditions (4-2-3) and (4-1-12) whose transform is

$$\bar{\theta}(1, s) = \frac{1}{s}; \qquad (4\text{-}2\text{-}4)$$

$$-K \frac{d\theta(0, s)}{d\xi} + s\bar{\theta}(0, s) = 0. \qquad (4\text{-}2\text{-}5)$$

After determining constants C_1 and C_2 from (4-2-4) and (4-2-5) and substituting them into (4-2-2) we get

$$\bar{\theta}(\xi, s) = \frac{\operatorname{ch} \xi \sqrt{s} + \frac{\sqrt{s}}{K} \operatorname{sh} \xi \sqrt{s}}{s\left[\operatorname{ch} \sqrt{s} + \frac{\sqrt{s}}{K} \operatorname{sh} \sqrt{s}\right]} = \frac{\Phi(s)}{\psi(s)}. \qquad (4\text{-}2\text{-}6)$$

$\Phi(s)$ and $\psi(s)$ are generalized polynomials with respect to s, and $\psi(s)$ does not contain any constant. Consequently, the conditions for applying Theorem (2-4) are fulfilled. To determine the roots s_n, the function $\psi(s)$ is set equal to zero

$$\psi(s) = s\left[\cos i\sqrt{s} + \frac{\sqrt{s}}{K} \frac{1}{i} \sin i\sqrt{s}\right] = 0. \qquad (4\text{-}2\text{-}7)$$

Here we used the relation $\operatorname{ch} x = \cos ix$, $\operatorname{sh} x = \frac{1}{i} \sin ix$.

From (4-2-7) it follows that 1) s = 0; 2) there is an infinite number of roots s_n determined by the characteristic equation

$$\operatorname{cotan} \mu = \frac{\mu}{K}, \qquad (4\text{-}2\text{-}8)$$

where $\mu = i\sqrt{s}$.

The roots of Eq. (4-2-8) are tabulated in [3]. /15

By using Theorem (2-4) for the temperature field, we get

$$\theta(\xi, \mathrm{Fo}) = 1 - \sum_{n=1}^{\infty} A_n \left\{\cos \mu_n \xi - \frac{\mu_n}{K} \sin \mu_n \xi\right\} \exp(-\mu_n^2 \mathrm{Fo}). \qquad (4\text{-}2\text{-}9)$$

where

$$A_n = \frac{2 \sin \mu_n}{\sin \mu_n \cos \mu_n + \mu_n}. \qquad (4\text{-}2\text{-}10)$$

*The Russian designation for cosh; also, sh = sinh here and throughout.

The initial temperature amplitudes A_n are tabulated in [3].

If the storing capacity of the metal layer is very small compared to that of the insulation ($K=\infty$), then solution (4-2-9) becomes the solution presented in [3].

Solution (4-2-9) for $\xi = 0$ is identical with the well-known solution for the temperature at the center of a symmetrically heated plate provided, however, that the Biot number be substituted by the K number. To determine the temperature of a metal wall one can therefore use the curves plotted by Gröber [10], Bachmann [11], Heissler [12], Boelter [14] and Grigull [15, 16].

We mentioned earlier that solid fuel burns very rapidly in rocket engines, in fractions of a second to several seconds. Solution (4-2-9) is inapplicable for very small Fo values.

The advantage of the operator method over the classical method of separation of variables is that it permits obtaining approximate solutions suitable for small Fo values.

For this purpose, Eq. (4-2-6) can be written as

$$\bar{\theta}(\xi, s) = \frac{1}{s\left(1+\frac{\sqrt{s}}{K}\right)}\left\{\exp\left[-(1-\xi)\sqrt{s}\right] + \right.$$

$$+\exp\left[-(1+\xi)\sqrt{s}\right] + \frac{\sqrt{s}}{K}\exp\left[-(1-\xi)\sqrt{s}\right] -$$

$$\left. -\frac{\sqrt{s}}{K}\exp\left[-(1+\xi)\sqrt{s}\right]\right\} \times \qquad (4\text{-}2\text{-}11)$$

$$\times\left[\frac{1}{1+\frac{1-\frac{\sqrt{s}}{K}}{1+\frac{\sqrt{s}}{K}}\exp(-2\sqrt{s})}\right].$$

By expanding the term in brackets in a geometric series, and retaining only the first term of the series (since $s \to \infty$ as $\mathrm{Fo} \to 0$) we have /16

$$\bar{\theta}(\xi, s) = \frac{\exp\left[-(1-\xi)\sqrt{s}\right]}{s\left(1+\frac{\sqrt{s}}{K}\right)} + \frac{\exp\left[-(1+\xi)\sqrt{s}\right]}{s\left(1+\frac{\sqrt{s}}{K}\right)} +$$

$$+\frac{\exp\left[-(1-\xi)\sqrt{s}\right]}{\sqrt{s}\,(K+\sqrt{s})} - \frac{\exp\left[-(1+\xi)\sqrt{s}\right]}{\sqrt{s}\,(K+\sqrt{s})}. \qquad (4\text{-}2\text{-}12)$$

The inverse can be found in the table of transforms:

$$\theta(\xi, \mathrm{Fo}) = \operatorname{erfc}\frac{1-\xi}{2\sqrt{\mathrm{Fo}}} + \operatorname{erfc}\frac{1+\xi}{2\sqrt{\mathrm{Fo}}} -$$

$$-2\exp\left[K(1+\xi)+(K\sqrt{\mathrm{Fo}})^2\right]\operatorname{erfc}\left(\frac{1+\xi}{2\sqrt{\mathrm{Fo}}}+K\sqrt{\mathrm{Fo}}\right) \qquad (4\text{-}2\text{-}13)$$

The transform of the average temperature of the refractory coating is obtained from

$$\bar{\theta}_1(s) = \int_0^1 \bar{\theta}(\xi, s)\, d\xi =$$

$$= \frac{\frac{\operatorname{sh}\sqrt{s}}{\sqrt{s}} + \frac{1}{K}(\operatorname{ch}\sqrt{s} - 1)}{s\left\{\operatorname{ch}\sqrt{s} + \frac{\sqrt{s}}{K}\operatorname{sh}\sqrt{s}\right\}}. \qquad (4\text{-}2\text{-}14)$$

Expression (4-2-14) can be transformed in the same way as Eq. (4-2-6)

$$\bar{\theta}_1(s) = \frac{1}{s\sqrt{s}\left(1 + \frac{\sqrt{s}}{K}\right)} - \frac{\exp(-2\sqrt{s})}{s\sqrt{s}\left(1 + \frac{\sqrt{s}}{K}\right)} + \qquad (4\text{-}2\text{-}15)$$

$$+ \frac{1}{s(K + \sqrt{s})} + \frac{\exp(-2\sqrt{s})}{s(K + \sqrt{s})} - 2\frac{\exp(\sqrt{s})}{s(K + \sqrt{s})}.$$

Inversion yields

$$\theta_1(\mathrm{Fo}) = 2\sqrt{\frac{\mathrm{Fo}}{\pi}}\left\{1 - \exp\left(-\frac{1}{\mathrm{Fo}}\right)\right\} +$$

$$+ \frac{2}{K}\left[(1 + K)\operatorname{erfc}\frac{1}{\sqrt{\mathrm{Fo}}} - \operatorname{erfc}\frac{1}{2\sqrt{\mathrm{Fo}}} + \right. \qquad (4\text{-}2\text{-}16)$$

$$+ \exp\{K + (K\sqrt{\mathrm{Fo}})^2\}\operatorname{erfc}\left\{\frac{1}{2\sqrt{\mathrm{Fo}}} + K\sqrt{\mathrm{Fo}}\right\} -$$

$$\left. - \exp\{2K + (K\sqrt{\mathrm{Fo}})^2\}\operatorname{erfc}\left\{\frac{1}{\sqrt{\mathrm{Fo}}} + K\sqrt{\mathrm{Fo}}\right\}\right].$$

/17

The function $x = \frac{2}{\sqrt{\pi}}\int_x^\infty \exp(-x^2)\, dx$ is available in tables, and the solutions (4-2-13) and (4-2-16) can be readily used for practical purposes.

Figure 2 shows curves of $1-\theta_m(\mathrm{Fo})$ as a function of dimensionless time Fo at different values of parameter K. Plotting was done according to Eq. (4-2-13) for $\xi = 0$ (Curve 1). Curves of $1 - \theta_1(\mathrm{Fo})$, computed by Eq. (4-2-16) (Curves 2) [60] are also shown in the figure.

These curves can be used to compute the thickness of the refractory coating required to protect the metal skin of the rocket engine at specified allowable temperatures reached towards the end of combustion.

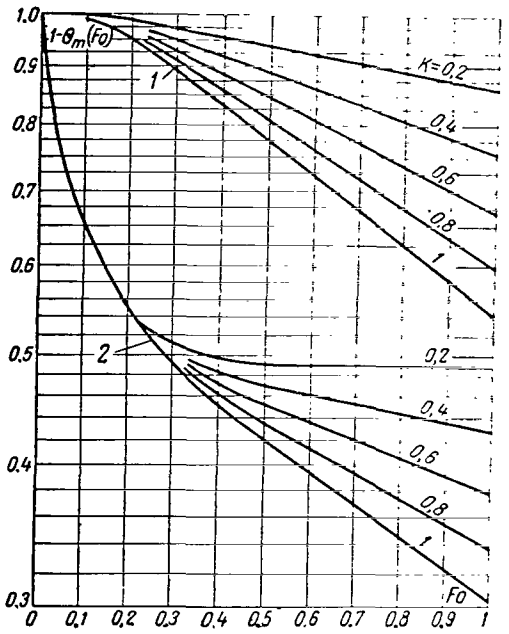

Figure 2.

4-3. Uniform Heat Flow to the Coating

/18

In dimensionless form, Eq. (1-4) becomes

$$-\frac{\partial\theta(1, Fo)}{\partial\xi} + Ki = 0, \tag{4-3-1}$$

and its transform is

$$-\frac{d\bar{\theta}(1, s)}{d\xi} + \frac{Ki}{s} = 0. \tag{4-3-2}$$

The temperature field of the refractory coating is given by Eq. (4-2-2). We determine the constants C_1 and C_2 from boundary conditions (4-2-5) and (4-3-2), substitute them into (4-2-2) and get

$$\frac{\bar{\theta}(\xi, s)}{Ki} = \frac{K \operatorname{ch}\xi\sqrt{s} + \sqrt{s}\operatorname{sh}\xi\sqrt{s}}{s^2\left[\operatorname{ch}\sqrt{s} + \frac{K}{\sqrt{s}}\operatorname{sh}\sqrt{s}\right]} = \frac{\Phi(s)}{\psi(s)}. \tag{4-3-3}$$

To determine the roots s_n, function $\psi(s)$ is set equal to zero:

$$\psi(s) = s^2\left[\cos i\sqrt{s} + \frac{K}{i\sqrt{s}}\sin i\sqrt{s}\right] = 0. \tag{4-3-4}$$

From (4-3-4) we get 1) $s = 0$ (double root); 2) an infinite number of roots s_n determined by the characteristic equation

$$\tan\mu = -\frac{\mu}{K}, \tag{4-3-5}$$

where $\mu = i\sqrt{s}$.

The roots of Eq. (4-3-5) are tabulated in [3]. $\Phi(s)$ and $\psi(s)$ are generalized polynomials with respect to s, and $\psi(s)$ has no constant. Consequently, the conditions of Theorem (2-4) are fulfilled, and in the case of double roots those of Theorem (2-5) are fulfilled.

For the temperature field we get

$$\frac{\theta(\xi, \mathrm{Fo})}{\mathrm{Ki}} = \frac{\mathrm{Fo} + \frac{\xi}{K} + \frac{\xi^2}{2}}{1 + \frac{1}{K}} - \frac{\frac{1}{6}\left(1 + \frac{3}{K}\right)}{\left(1 + \frac{1}{K}\right)^2} -$$

$$- \sum_{n=1}^{\infty} A_n \frac{1}{\mu_n} \left\{ \cos \mu_n \xi - \frac{\mu_n}{K} \sin \mu_n \xi \right\} \exp(-\mu_n^2 \mathrm{Fo}), \qquad (4\text{-}3\text{-}6)$$

where

$$A_n = \frac{2 \cos \mu_n}{\mu_n - \sin \mu_n \cos \mu_n}. \qquad (4\text{-}3\text{-}7)$$

Equation (4-3-7) is tabulated in [3]. As $K \to \infty$, the solution (4-3-6) /19
becomes identical with that given in [3].

Because of inequalities $\mu_1 < \mu_2 < \mu_3 < \ldots < \mu_n$, the series in solution (4-3-6) rapidly converges and, beginning with a given value of Fo_1, all its terms become so small with respect to the first one that they can be neglected.

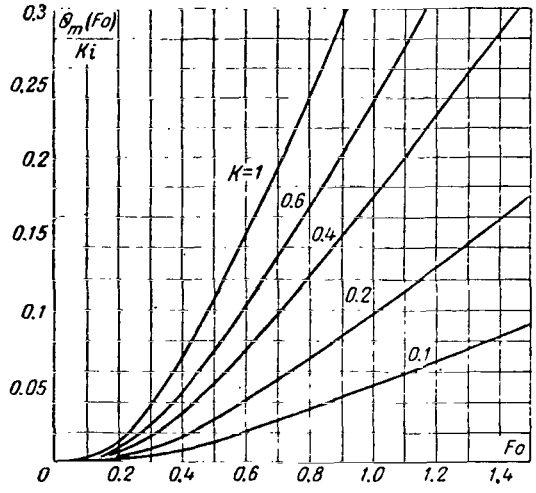

Figure 3.

For small values of Fo we have to take several terms of series (4-3-6), and this leads to difficulties in computation. Let us find an approximate solution suitable for small Fo values.

Expression (4-3-3) is converted in the same way as expression (4-2-6):

$$\frac{\bar{\theta}(\xi, s)}{\mathrm{Ki}} = \frac{K \exp[-(1-\xi)\sqrt{s}]}{s\sqrt{s}(\sqrt{s}+K)} + \frac{K \exp[-(1+\xi)\sqrt{s}]}{s\sqrt{s}(\sqrt{s}+K)} +$$

$$+ \frac{\exp[-(1-\xi)\sqrt{s}]}{s(\sqrt{s}+K)} - \frac{\exp[-(1+\xi)\sqrt{s}]}{s(\sqrt{s}+K)}. \qquad (4\text{-}3\text{-}8)$$

With the aid of the table of transforms we find

$$\frac{\theta(\xi, \mathrm{Fo})}{\mathrm{Ki}} = 2\sqrt{\frac{\mathrm{Fo}}{\pi}}\left\{\exp\left[-\frac{(1-\xi)^2}{4\mathrm{Fo}}\right] + \right.$$

$$\left. + \exp\left[-\frac{(1+\xi)^2}{4\mathrm{Fo}}\right]\right\} - (1-\xi)\operatorname{erfc}\frac{1-\xi}{2\sqrt{\mathrm{Fo}}} -$$

$$-\left(1+\xi+\frac{2}{K}\right)\operatorname{erfc}\frac{1+\xi}{2\sqrt{\mathrm{Fo}}} + \frac{2}{K}\exp[(1+\xi)K + \quad /20$$

$$+ (K\sqrt{\mathrm{Fo}})^2]\operatorname{erfc}\left[\frac{1+\xi}{2\sqrt{\mathrm{Fo}}} + K\sqrt{\mathrm{Fo}}\right]. \qquad (4\text{-}3\text{-}9)$$

To determine the temperature of the metal wall, we have to set $\xi = 0$ in (4-3-6) and (4-3-9). The curves in Fig. 3 are plotted from these equations; they show the variation of $\theta_m(\mathrm{Fo})/\mathrm{Ki}$ as a function of dimensionless time Fo for various values of parameter K.

4-4. Heat Flow to the Coating is an Exponential Function of Time

Reference [29] determines the temperature field of the skin of a space vehicle upon entering denser layers of the atmosphere, when the velocity and entry angle are approximately constant. It is assumed that the rear side of the shell is insulated, and that the initial temperature is uniform over the entire skin. It is also assumed that the heat flow is an exponential function of time

$$q = q_0 \exp(b\tau), \qquad (4\text{-}4\text{-}1)$$

where q_0 and b are constants which depend upon the initial velocity and angle of entry into the atmosphere.

We investigate the same problem for a metal skin covered with refractory coating.

Noting Eq. (4-4-1), Eq. (1-4) can be written in dimensionless form

$$-\frac{\partial\theta(1, \mathrm{Fo})}{\partial\xi} + \mathrm{Ki}\exp(\mathrm{Pd}\,\mathrm{Fo}) = 0, \qquad (4\text{-}4\text{-}2)$$

and its transform is

$$-\frac{d\bar{\theta}(1, s)}{d\xi} + \mathrm{Ki}\frac{1}{s-\mathrm{Pd}} = 0. \qquad (4\text{-}4\text{-}3)$$

After substituting the values of the arbitrary constants found from boundary conditions (4-2-5) and (4-4-3), Eq. (4-2-2) becomes

$$\frac{\bar{\theta}(\xi, s)}{\mathrm{Ki}} = \frac{1}{s(s-\mathrm{Pd})} \frac{K \operatorname{ch} \xi \sqrt{s} + \sqrt{s} \operatorname{sh} \xi \sqrt{s}}{\operatorname{ch} \sqrt{s} + \frac{K}{\sqrt{s}} \operatorname{sh} \sqrt{s}}. \tag{4-4-4}$$

With the aid of Theorem (2-4) we find

$$\frac{\theta(\xi, \mathrm{Fo})}{\mathrm{Ki}} = \frac{1}{\mathrm{Pd}} \times$$

$$\times \left\{ \frac{\operatorname{ch} \xi \sqrt{\mathrm{Pd}} + \frac{\sqrt{\mathrm{Pd}}}{K} \operatorname{sh} \xi \sqrt{\mathrm{Pd}}}{\frac{\operatorname{ch} \sqrt{\mathrm{Pd}}}{K} + \frac{\operatorname{sh} \sqrt{\mathrm{Pd}}}{\sqrt{\mathrm{Pd}}}} \exp(\mathrm{Pd}\,\mathrm{Fo}) - \frac{1}{1 + \frac{1}{K}} \right\} - \tag{/21}$$

$$- \sum_{n=1}^{\infty} A_n \frac{\mu_n}{\mathrm{Pd} + \mu_n^2} \left\{ \cos \mu_n \xi - \frac{\mu_n}{K} \sin \mu_n \xi \right\} \exp(-\mu_n^2 \mathrm{Fo}), \tag{4-4-5}$$

where u_n and A_n are determined from Eqs. (4-3-5) and (4-3-7), respectively.

4-5. The Coating Is Heated According to the Law $T_r = T_c = \text{const}$.

In dimensionless form, Eq. (1-5) becomes

$$\frac{\partial \theta(1, \mathrm{Fo})}{\partial \xi} + \mathrm{Bi} \{\theta(1, \mathrm{Fo}) - \theta_r(\mathrm{Fo})\} = 0, \tag{4-5-1}$$

and its transform is

$$\frac{d\bar{\theta}(1, s)}{d\xi} + \mathrm{Bi} \{\bar{\theta}(1, s) - \bar{\theta}_r(s)\} = 0. \tag{4-5-2}$$

Equation (4-2-2) after substitution of the values of the arbitrary constants found from boundary conditions (4-2-5) and (4-5-2) takes the form

$$\bar{\theta}(\xi, s) = \bar{\theta}_r(\xi) \frac{\operatorname{ch} \xi \sqrt{s} + \frac{\sqrt{s}}{K} \operatorname{sh} \xi \sqrt{s}}{\left(1 + \frac{s}{\mathrm{Bi}K}\right) \operatorname{ch} \sqrt{s} + \left(\frac{1}{\mathrm{Bi}} + \frac{1}{K}\right) \sqrt{s} \operatorname{sh} \sqrt{s}}. \tag{4-5-3}$$

When $T_r = T_c = \text{const}$, dimensionless temperature is $\theta_r(\mathrm{Fo}) = 1$. We substitute $\bar{\theta}_r(s) = 1/s$ into (4-5-3), apply Theorem (2-4) and get for the temperature field the following equation [30]:

$$\theta(\xi, \mathrm{Fo}) = 1 - \sum_{n=1}^{\infty} A_n \left\{ \cos \mu_n \xi - \frac{\mu_n}{K} \sin \mu_n \xi \right\} \exp(-\mu_n^2 \mathrm{Fo}); \tag{4-5-4}$$

here μ_n is an infinite number of roots of the characteristic equation

$$\tan \mu = \frac{Bi\,K - \mu^2}{\mu (Bi + K)} \qquad (4\text{-}5\text{-}5)$$

and A_n are the initial temperature amplitudes /22

$$A_n = \left\{ \left(1 - \frac{\mu_n^2}{Bi K} \right) \frac{\sin \mu_n \cos \mu_n + \mu_n}{2 \sin \mu_n} + \frac{\mu_n^2}{Bi K} \cos \mu_n \right\}^{-1}. \qquad (4\text{-}5\text{-}6)$$

The points of intersection of the curve $y_1 = \tan \mu$ with the hyperbola $y_2 = \frac{Bi\,K - \mu^2}{\mu (Bi + K)}$ yield the roots μ_n of Eq. (4-5-5); their number is infinite. They are pairwise equal in terms of absolute value, but have opposite signs. Since $s_n = -\mu_n^2$, we need investigate only the positive values of the roots μ_n to determine s_n.

Comprehensive tables of these roots and the tables of initial temperature amplitudes A_n were calculated by the electronic computer "Minsk-2" and are given in Appendix II.

The results given in the tables do not change even if Bi and K exchange places. This widens considerably the practical use of the these tables.

It is interesting to note that the tables can be used also for calculating the cooling of metal castings in sand molds according to formulas given in [31]. When $K \to \infty$, solution (4-5-4) becomes identical with the solution given in [3].

Grover and Holter [32] found the solution of (4-5-4) before the author. To avoid tabulation of the roots of μ_n by (4-5-5) and of coefficients A_n by (4-5-6), [32] recommends using the generally known solutions for a symmetrically heated plate, and replacing the Biot number with an empirical parameter.

In our designation this parameter takes the form $\frac{Bi\,K}{1 + Bi + K}$.

This subsitution does not damage the results by more than 4%.

The parameter introduced by Grover and Holter is not empirical and can be explained in the following way. From the tables in Appendix II we can see that the first root of μ_1 is occasionally much smaller than unity, so that we can set $\tan \mu_1 = \mu_1$. Then from the characteristic equation (4-5-5) we can readily get

$$\mu_1 = \sqrt{\frac{\mathrm{Bi}K}{1 + \mathrm{Bi} + K}}. \tag{4-5-7}$$

We determine from (4-5-7) the quantity $\mu_1^2/\mathrm{Bi}\,K$, substitute it into (4-5-6) and find that

$$A_1 = \left\{ \frac{\sin\mu_1\cos\mu_1 + \mu_1}{2\sin\mu_1} + \right.$$

$$\left. + \frac{1}{1 + \mathrm{Bi} + K} \frac{\sin\mu_1\cos\mu_1 - \mu_1}{2\sin\mu_1} \right\}^{-1}. \tag{4-5-8}$$

For small values of μ_1, the second term of Eq. (4-5-8) is so much smaller than the first that it can be neglected. Then /23

$$A_1 \approx \frac{2\sin\mu_1}{\sin\mu_1\cos\mu_1 + \mu_1}. \tag{4-5-9}$$

The characteristic equation that gives the roots of the solution for symmetrically heated plates [3, 4] is well known:

$$\operatorname{cotan}\mu = \frac{\mu}{\mathrm{Bi}_0}. \tag{4-5-10}$$

For small values of the first root μ_1 we can set $\operatorname{cotan}\mu_1 = 1/\mu_1$. Then from (4-5-10) we get

$$\mu_1 = \sqrt{\mathrm{Bi}_0}. \tag{4-5-11}$$

If we compare (4-5-7) to (4-5-11), bearing in mind that (4-5-9) is identical with A_n for symmetrically heated plates, we can readily understand how Groyer and Holter found their empirical parameter.

Consequently, their approximate solution is applicable only to cases where the first root in Eq. (4-5-5) is appreciably smaller than unity.

There may be cases of heating occurring in an extremely short time for which the roots given in this book are insufficient. We shall therefore solve the problem in a form more suitable for small Fo values. We revert to solution (4-5-3) for the transform. Considering that $\bar{\theta}_r(s) = 1/s$, that solution is converted like (4-2-6). For $\mathrm{Bi} \neq K$ we get

$$\bar{\theta}(\xi, s) = \frac{\mathrm{Bi}\,K}{\mathrm{Bi} - K} \left\{ \frac{\exp[-(1-\xi)\sqrt{s}]}{s(\sqrt{s} + K)} + \right.$$

$$\left. + \frac{\exp[-(1+\xi)\sqrt{s}]}{s(\sqrt{s} + K)} - \frac{\exp[-(1-\xi)\sqrt{s}]}{s(\sqrt{s} + \mathrm{Bi})} - \right.$$

$$-\frac{\exp[-(1+\xi)\sqrt{s}]}{s(\sqrt{s}+\mathrm{Bi})}+\frac{\exp[-(1-\xi)\sqrt{s}]}{K\sqrt{s}(\sqrt{s}+K)}-$$

$$-\frac{\exp[-(1+\xi)\sqrt{s}]}{K\sqrt{s}(\sqrt{s}+K)}-\frac{\exp[-(1-\xi)\sqrt{s}]}{K\sqrt{s}(\sqrt{s}+\mathrm{Bi})}+$$

$$+\frac{\exp[-(1+\xi)\sqrt{s}]}{K\sqrt{s}(\sqrt{s}+\mathrm{Bi})}\Bigg\}. \qquad (4\text{-}5\text{-}12)$$

With the aid of the table of transforms we find

/24

$$\theta(\xi, \mathrm{Fo})=\operatorname{erfc}\frac{1-\xi}{2\sqrt{\mathrm{Fo}}}+\operatorname{erfc}\frac{1+\xi}{2\sqrt{\mathrm{Fo}}}-$$

$$-\exp[(1-\xi)\,\mathrm{Bi}+(\mathrm{Bi}\sqrt{\mathrm{Fo}})^2]\times$$

$$\times\operatorname{erfc}\left[\mathrm{Bi}\sqrt{\mathrm{Fo}}+\frac{1-\xi}{2\sqrt{\mathrm{Fo}}}\right]-2\frac{\mathrm{Bi}}{\mathrm{Bi}-K}\exp[(1+\xi)K+$$

$$+(K\sqrt{\mathrm{Fo}})^2]\operatorname{erfc}\left[K\sqrt{\mathrm{Fo}}+\frac{1+\xi}{2\sqrt{\mathrm{Fo}}}\right]+\frac{\mathrm{Bi}+K}{\mathrm{Bi}-K}\times$$

$$\times\exp[(1+\xi)\,\mathrm{Bi}+(\mathrm{Bi}\sqrt{\mathrm{Fo}})^2]\operatorname{erfc}\left[\mathrm{Bi}\sqrt{\mathrm{Fo}}+\frac{1+\xi}{2\sqrt{\mathrm{Fo}}}\right]. \qquad (4\text{-}5\text{-}13)$$

For Bi = K we have

$$\bar{\theta}(\xi, s)=\frac{\exp[-(1-\xi)\sqrt{s}]}{s\left(\frac{\sqrt{s}}{K}+1\right)^2}+\frac{\exp[-(1+\xi)\sqrt{s}]}{s\left(\frac{\sqrt{s}}{K}+1\right)^2}+$$

$$+\frac{\exp[-(1-\xi)\sqrt{s}]}{K\sqrt{s}\left(\frac{\sqrt{s}}{K}+1\right)^2}-\frac{\exp[-(1+\xi)\sqrt{s}]}{K\sqrt{s}\left(\frac{\sqrt{s}}{K}+1\right)^2}. \qquad (4\text{-}5\text{-}14)$$

The original temperature is

$$\theta(\xi, \mathrm{Fo})=\operatorname{erfc}\frac{1-\xi}{2\sqrt{\mathrm{Fo}}}+\operatorname{erfc}\frac{1+\xi}{2\sqrt{\mathrm{Fo}}}-4K\sqrt{\frac{\mathrm{Fo}}{\pi}}\times$$

$$\times\exp\left[-\frac{(1+\xi)^2}{4\,\mathrm{Fo}}\right]-\exp[(1-\xi)K+(K\sqrt{\mathrm{Fo}})^2]\times$$

$$\times\operatorname{erfc}\left[K\sqrt{\mathrm{Fo}}+\frac{1-\xi}{2\sqrt{\mathrm{Fo}}}\right]-\exp[(1+\xi)K+(K\sqrt{\mathrm{Fo}})^2]\times$$

$$\times\operatorname{erfc}\left[K\sqrt{\mathrm{Fo}}+\frac{1+\xi}{2\sqrt{\mathrm{Fo}}}\right]+2[(1+\xi)K+$$

$$+2(K\sqrt{\mathrm{Fo}})^2]\operatorname{erfc}\left[K\sqrt{\mathrm{Fo}}+\frac{1+\xi}{2\sqrt{\mathrm{Fo}}}\right]. \qquad (4\text{-}5\text{-}15)$$

To determine the temperature of the metal wall we must set $\xi = 0$ in (4-5-4) and, accordingly, in (4-5-13) and (4-5-15). In Figs. 4-6 we find the values of $\theta_m(Fo)$ for different values of K, and for values of Bi equal respectively to 1, 10 and 100.

Yasinsky [33] uses Grover's and Holter's solution (4-5-4) and develops Figurovskiy's ideas [34] on how to account for changes in the heat transfer coefficient and how to average α and T_r.

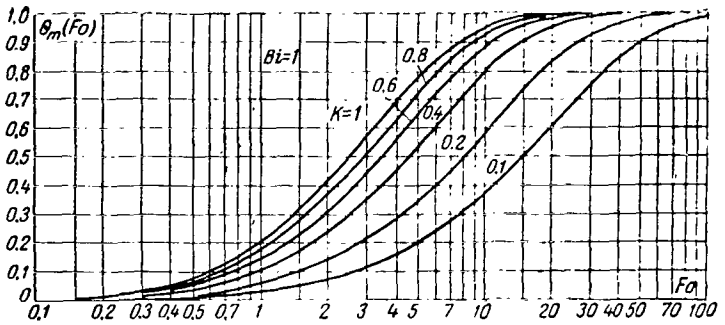

Figure 4.

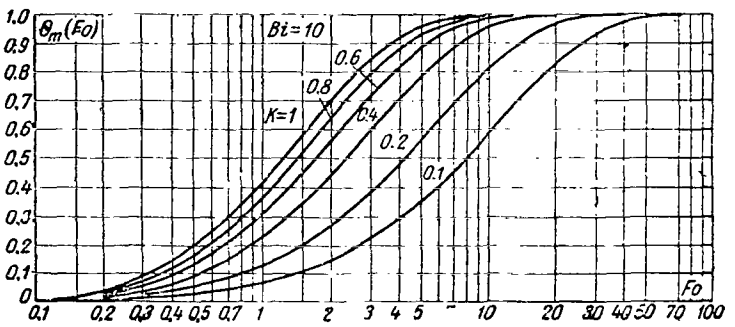

Figure 5.

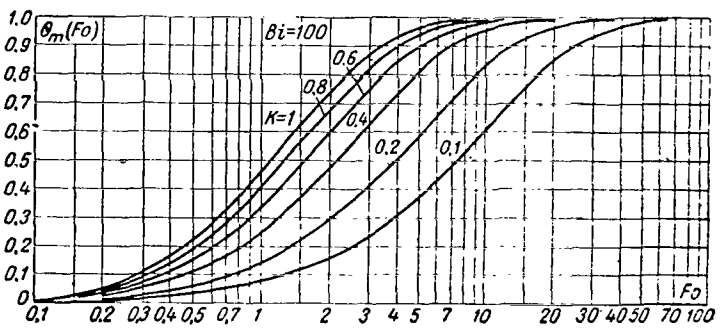

Figure 6.

Note: Commas represent decimals.

4-6. The Coating Is Heated So that the Temperature $T_r = T_0 + b\tau$

Dimensionless temperature $\theta_r(Fo) = Pd\ Fo$. We substitute $\bar{\theta}_r(s) = Pd/s^2$ /26 into (4-4-3), apply theorems (2-4) to the temperature field and find [30]

$$\frac{\theta(\xi, Fo)}{Pd} = Fo - \frac{1}{2}\left(1 + 2\frac{1+K+Bi}{BiK} - \xi^2 - \frac{2\xi}{K}\right) + \\ + \sum_{n=1}^{\infty} \frac{A_n}{\mu_n^2}\left(\cos\mu_n\xi - \frac{\mu_n}{K}\sin\mu_n\xi\right)\exp(-\mu_n^2 Fo), \tag{4-6-1}$$

where μ_n and A_n are determined from Eqs. (4-5-5) and)4-5-6) respectively.

With $K \to \infty$ solution (4-6-1) becomes identical with the solution given in [3].

4-7. The Coating Is Heated So that the Temperature $T_r = T_c - (T_c - T_0)\exp(-b\tau)$

Dimensionless temperature $\theta_r(Fo) = 1 - \exp(-Pd\ Fo)$. We substitute $\bar{\theta}_r(s) = \frac{1}{s\left(1+\frac{s}{Pd}\right)}$ into (4-4-3), apply Theorems (2-4) to the temperature field and find [30]

$$\theta(\xi, Fo) = 1 - \frac{\cos\xi\sqrt{Pd} - \frac{\sqrt{Pd}}{K}\sin\xi\sqrt{Pd}}{\left(1 - \frac{Pd}{BiK}\right)\cos\sqrt{Pd} - \left(\frac{1}{Bi} + \frac{1}{K}\right)\sqrt{Pd}\sin\sqrt{Pd}} \times \\ \times \exp(-Pd\ Fo) - \sum_{n=1}^{\infty} A_n \frac{1}{1 - \frac{\mu_n^2}{Pd}}\left\{\cos\mu_n\xi - \right. \\ \left. - \frac{\mu_n}{K}\sin\mu_n\xi\right\}\exp(-\mu_n^2 Fo), \tag{4-7-1}$$

where μ_n and A_n are determined from Eqs. (4-5-5) and (4-5-6) respectively.

With $K \to \infty$ solution (4-7-1) becomes identical with the solution given in [3].

4-8. The Coating is Heated So that the Temperature

$$T_\tau = T_c + \sum_{k=1}^{p} T_k \exp(-d_k\tau)$$

When an aircraft flies within the earth's atmosphere, the air in the boun- /27 dary layer is suddenly accelerated from zero velocity to flight velocity. On

the aircraft's leading edges this is caused by normal forces and involves negligible heat transfer. There occurs isentropic compression and the temperature of the boundary layer increases to stagnation temperature. Beyond the critical point, the air is heated from internal friction under conditions permitting heat transfer in the boundary layer. Under these (nonisentropic) conditions stagnation temperature will not be reached. In the absence of heat transfer with the surface of the body (ideally insulated surface with zero heat transfer by radiation) air temperature at the body's surface is determined by the formula

$$T_r = T_\infty\left(1 + r\frac{\varkappa - 1}{2}M^2\right) \tag{4-8-1}$$

and is known as recovery temperature [35].

At takeoff this temperature changes as a result of changing velocity, altitude and air temperature, and during cruising it remains constant.

In [36] the expression $T_r = T_0 + \sum_{n=1}^{k} b_n\tau^n$ was adopted for recovery temperature. For both takeoff and cruising it is best to represent it as the sum of a constant and exponential functions with a negative exponent proportional to time:

$$T_r = T_c + \sum_{k=1}^{p} T_k \exp(-d_k\tau). \tag{4-8-2}$$

Such a conversion can be performed by the method devised in [37].

In dimensionless form, Eq. (4-8-2) can be written as

$$\theta_r(\mathrm{Fo}) = 1 + \sum_{k=1}^{p} \delta_k \exp(-\beta_k\tau), \tag{4-8-3}$$

and its transform as

$$\overline{\theta}_r(s) = \frac{1}{s} + \sum_{k=1}^{p}\frac{\delta_k}{s+\beta_k}. \tag{4-8-4}$$

After substituting (4-8-4) into (4-5-3) and applying Theorem (2-4) to the temperature field, we find /28

$$\theta(\xi, \mathrm{Fo}) =$$

$$= 1 + \sum_{k=1}^{p} \delta_k \frac{\cos\xi\sqrt{\beta_k} - \frac{\sqrt{\beta_k}}{K}\sin\xi\sqrt{\beta_k}}{\left(1 - \frac{\beta_k}{\mathrm{Bi}\,K}\right)\cos\sqrt{\beta_k} - \left(\frac{1}{\mathrm{Bi}} + \frac{1}{K}\right)\sqrt{\beta_k}\sin\sqrt{\beta_k}} \times$$

$$\times \exp(-\beta_k \mathrm{Fo}) - \sum_{n=1}^{\infty} A_n \left(\cos \mu_n \xi - \right.$$

$$\left. - \frac{\mu_n}{K} \sin \mu_n \xi \right) \exp(-\mu_n^2 \mathrm{Fo}) -$$

$$- \sum_{k=1}^{p} \sum_{n=1}^{\infty} A_n \frac{\delta_k}{1 - \frac{\beta_k}{\mu_n^2}} \left(\cos \mu_n \xi - \frac{\mu_n}{K} \sin \mu_n \xi\right) \exp(-\mu_n^2 \mathrm{Fo}), \tag{4-8-5}$$

where μ_n and A_n are determined from Eqs. (4-5-5) and (4-5-6), respectively.

4-9. The Coating Is Heated So that the Temperature $T_r = T_r(\tau)$

If the recovery temperature is a known function of time $\theta_r(\mathrm{Fo}) = F(\mathrm{Fo})$, the temperature field for any instant can be readily found from Duhamel's theorem

$$\theta(\xi, \mathrm{Fo}) = F(0)\left\{1 - \sum_{n=1}^{\infty} A_n \left(\cos \mu_n \xi - \frac{\mu_n}{K} \sin \mu_n \xi\right) \exp(-\mu_n^2 \mathrm{Fo})\right\} +$$

$$+ \int_0^{\mathrm{Fo}} F'(\mathrm{Fo} - \mathrm{Fo}^*)\, d\mathrm{Fo}^* - \sum_{n=1}^{\infty} A_n \left(\cos \mu_n \xi - \frac{\mu_n}{K} \sin \mu_n \xi\right) \times$$

$$\times \int_0^{\mathrm{Fo}} \exp(-\mu_n^2 \mathrm{Fo}^*)\, F'(\mathrm{Fo} - \mathrm{Fo}^*)\, d\mathrm{Fo}^*, \tag{4-9-1}$$

where μ_n and A_n are determined from (4-5-5) and (4-5-6), respectively.

As $K \to \infty$ solution (4-9-1) becomes identical with the solution given in [3]. /29

With the aid of (4-9-1) one could solve all the problems in which recovery temperature changes in time. However, this method has a number of drawbacks, pointed out in [3], which induced the author to use Laplace transformation.

5. METAL SKINS WITH INTERNAL COOLING

Overheating of the skin of vehicles during protracted flights can be prevented by internal cooling methods, such as air circulation, evaporation of water and fuel injection [38]. These systems can be used at velocities up to Mach 5, and altitudes up to 40 km, beyond which they become impractical because of their large size [2].

The transient temperature field that arises in unsymmetrically heated plates was studied in [39, 40].

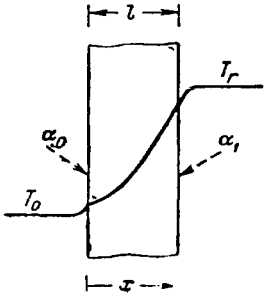

Figure 7.

5-1. Mathematical Formulation of the Problem

The investigated problem is shown systematically in Fig. 7. We have an infinite plate of width l whose initial temperature T_0 is equal to the temperature of environment. At an initial time $\tau = 0$ the temperature of the liquid or gas adjacent to surface x = 0 remains constant and equal to the initial temperature, while heat enters through surface x = l according to condition (1-3), (1-4) or (1-5).

In dimensionless form, therefore, the problem amounts to solving the equation under the following conditions:

$$\frac{\partial\theta(\xi, \mathrm{Fo})}{\partial \mathrm{Fo}} = \frac{\partial^2\theta(\xi, \mathrm{Fo})}{\partial\xi^2} \qquad (5\text{-}1\text{-}1)$$ /30

$$\theta(\xi, 0) = 0; \qquad (5\text{-}1\text{-}2)$$

$$-\frac{\partial\theta(0, \mathrm{Fo})}{\partial\xi} + \mathrm{Bi}_0\theta(0, \mathrm{Fo}) = 0; \qquad (5\text{-}1\text{-}3)$$

$$\theta(1, \mathrm{Fo}) = \theta_r(\mathrm{Fo}) \qquad (5\text{-}1\text{-}4)$$

or

$$\frac{\partial\theta(1, \mathrm{Fo})}{\partial\xi} = \mathrm{Ki}, \qquad (5\text{-}1\text{-}5)$$

or

$$\frac{\partial\theta(1, \mathrm{Fo})}{\partial\xi} + \mathrm{Bi}_1\{\theta(1, \mathrm{Fo}) - \theta_r(\mathrm{Fo})\} = 0. \qquad (5\text{-}1\text{-}6)$$

Stresses σ_y and σ_2 are determined from formulas [8]

$$\frac{(1-\mu)\sigma_y}{\alpha E\Delta T} = \frac{(1-\mu)\sigma_z}{\alpha E\Delta T} =$$

$$= -\theta(\xi, \mathrm{Fo}) + \theta_1(\mathrm{Fo}) + \left(\xi - \frac{1}{2}\right)\theta_2(\mathrm{Fo}), \qquad (5\text{-}1\text{-}7)$$

where

$$\theta_1(\mathrm{Fo}) = \int_0^1 \theta(\xi, \mathrm{Fo})\, d\xi; \qquad (5\text{-}1\text{-}8)$$

$$\theta_2(\mathrm{Fo}) = 12\int_0^1 \left(\xi - \frac{1}{2}\right)\theta(\xi, \mathrm{Fo})\, d\xi. \qquad (5\text{-}1\text{-}9)$$

If the plate is fastened to prevent bending, the term $\theta_2(Fo)$ in (5-1-7) is taken equal to zero.

5-2. Temperature of Surface $x = l$ Is Constant

The plate's temperature field is given by Eq. (4-2-2). Constants C_1 and C_2 are determined from boundary conditions (5-1-3) and (5-1-4) the transforms of which are

$$-\frac{\partial\overline{\theta}(0, s)}{\partial\xi} + Bi_0\overline{\theta}(0, s) = 0; \tag{5-2-1}$$

$$\overline{\theta}(1, s) = \frac{1}{s}. \tag{5-2-2}$$

Substituted into (4-2-2) they yield /31

$$\overline{\theta}(\xi, s) = \frac{1}{s}\frac{\operatorname{ch}\xi\sqrt{s} + \frac{Bi_0}{\sqrt{s}}\operatorname{sh}\xi\sqrt{s}}{\operatorname{ch}\sqrt{s} + \frac{Bi_0}{\sqrt{s}}\operatorname{sh}\sqrt{s}}. \tag{5-2-3}$$

The solution of the problem can have two forms. First, we convert Eq. (5-2-3) in the same way as (4-2-6) and use the table of transforms to find a solution for small Fo values

$$\theta(\xi, Fo) = \operatorname{erfc}\frac{1-\xi}{2\sqrt{Fo}} - \operatorname{erfc}\frac{1+\xi}{2\sqrt{Fo}} +$$

$$+ 2\exp\left\{(1+\xi)Bi_0 + (Bi_0\sqrt{Fo})^2\right\}\operatorname{erfc}\left\{\frac{1+\xi}{2\sqrt{Fo}} + Bi_0\sqrt{Fo}\right\}. \tag{5-2-4}$$

Second, we use Theorem (2-4) and get

$$\theta(\xi, Fo) = \frac{1 + Bi_0\xi}{1 + Bi_0} + \sum_{n=1}^{\infty} A_n\left\{\sin\mu_n\xi + \right.$$

$$\left. + \frac{\mu_n}{Bi_0}\cos\mu_n\xi\right\}\exp(-\mu_n^2 Fo). \tag{5-2-5}$$

where

$$A_n = \frac{2\cos\mu_n}{\mu_n - \sin\mu_n\cos\mu_n};$$

μ_n are roots of the characteristic equation

$$\tan\mu = -\frac{\mu}{Bi_0}. \tag{5-2-7}$$

TRANSLATION

Expressions (5-2-6) and (5-2-7) are identical with (4-3-7) and (4-3-5).

Figure 8 shows the curves, plotted from Eqs. (5-2-4) and (5-2-5), which indicate the changes of temperature in time for $\xi = 0$ and different values of Bi_0.

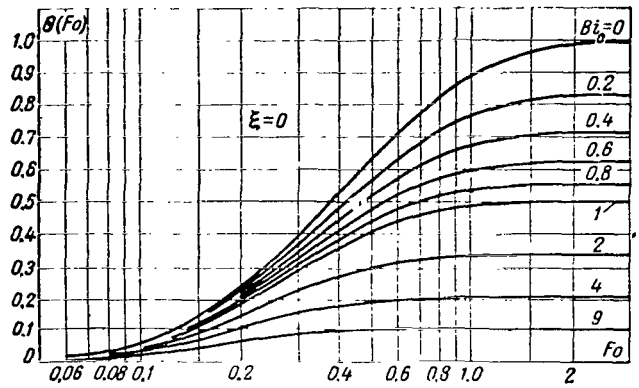

Figure 8.

Thermal stresses are determined from Eq. (5-1-7). This requires computation of $\theta_1(Fo)$ and $\theta_2(Fo)$. We substitute the obtained solution (5-2-5), compute the integrals and get

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$$\theta_1(Fo) = \frac{1 + \frac{Bi_0}{2}}{1 + Bi_0} + \sum_{n=1}^{\infty} A_n \frac{\cos \mu_n - 1}{\mu_n \cos \mu_n} \exp(-\mu_n^2 Fo); \tag{5-2-8}$$

$$\theta_2(Fo) = \frac{Bi_0}{1 + Bi_0} - 12 \sum_{n=1}^{\infty} A_n \frac{\cos \mu_n + 1}{\mu_n \cos \mu_n} \exp(-\mu_n^2 Fo). \tag{5-2-9}$$

5-3. Plate Is Heated by Steady Heat Flow

The plate's temperature field is described by Eq. (4-2-2). Constants C_1 and C_2 are determined from boundary conditions (5-2-1) and (5-1-5). The transform of (5-1-5) has the form

$$\frac{d\theta(1, s)}{d\xi} = \frac{Ki}{s}. \tag{5-3-1}$$

After substitution of the values of constants C_1 and C_2, Eq. (4-2-2) takes the form

$$\frac{\bar{\theta}(\xi, s)}{Ki} = \frac{\operatorname{ch}\xi\sqrt{s} + \frac{Bi_0}{\sqrt{s}}\operatorname{sh}\xi\sqrt{s}}{s\left[Bi_0 \operatorname{ch}\sqrt{s} + \sqrt{s}\operatorname{sh}\sqrt{s}\right]}. \tag{5-3-2}$$

We convert Eq. (5-3-2) the same way as Eq. (4-2-6), use the tables of transforms and find the solution for small Fo values /33

$$\frac{\theta(\xi, Fo)}{Ki} = 2\sqrt{\frac{Fo}{\pi}}\left\{\exp\left[-\frac{(1-\xi)^2}{4Fo}\right] - \exp\left[-\frac{(1+\xi)^2}{4Fo}\right]\right\} - (1-\xi)\operatorname{erfc}\frac{1-\xi}{2\sqrt{Fo}} + \left(1+\xi+\frac{2}{Bi_0}\right)\operatorname{erfc}\frac{1+\xi}{2\sqrt{Fo}} - \frac{2}{Bi_0}\exp\left[(1+\xi)Bi_0 + (Bi_0\sqrt{Fo})^2\right]\operatorname{erfc}\left(\frac{1+\xi}{2\sqrt{Fo}} + Bi_0\sqrt{Fo}\right). \tag{5-3-3}$$

We use Theorem (2-4) for the temperature field and have

$$\frac{\theta(\xi, Fo)}{Ki} = \frac{1+Bi_0\xi}{Bi_0} - \sum_{n=1}^{\infty} A_n\left\{\frac{1}{Bi_0}\cos\mu_n\xi + \frac{1}{\mu_n}\sin\mu_n\xi\right\}\exp\left(-\mu_n^2 Fo\right), \tag{5-3-4}$$

where

$$A_n = \frac{2\sin\mu_n}{\mu_n + \sin\mu_n\cos\mu_n}; \tag{5-3-5}$$

μ_n are roots of the characteristic equation

$$\operatorname{cotan}\mu = \frac{\mu}{Bi_0}. \tag{5-3-6}$$

The roots of Eq. (5-3-6) and expression (5-3-5) are tabulated in [3].

In Figs. 9 and 10 are plotted the curves which give the values of $\frac{\theta(\xi, Fo)}{Ki}Bi_0$ for $\xi = 0$ and $\xi = 1$ and for different values of Bi_0. The curves in Fig. 9 are identical with the temperature curves at the center of a symmetrically heated plate. We can therefore use the charts of Gröber [10], Bachmann [11], Heissler [12], Boeltler [14] and Grigull [15, 16].

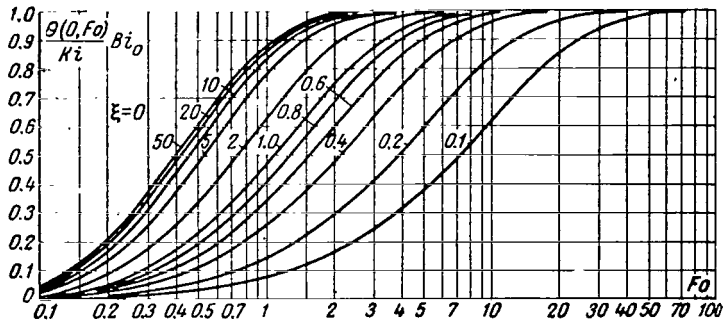

Figure 9.

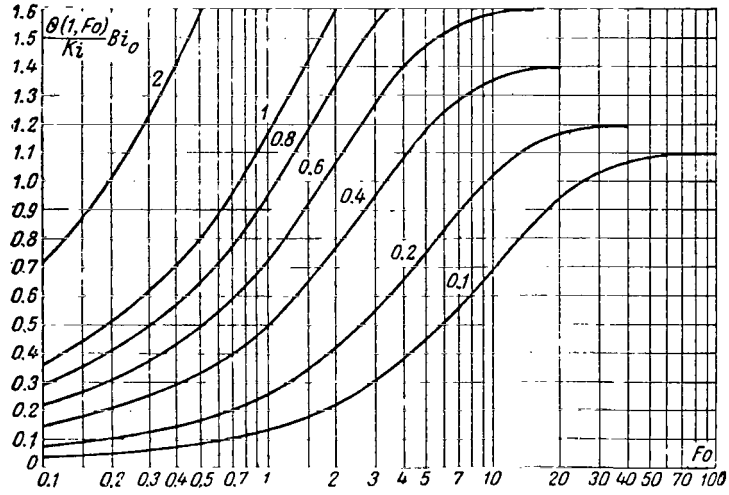

Figure 10.

Thermal stresses are determined from Eq. (5-1-7), after substituting solution (5-3-4) into (5-1-8) and (5-1-9):

$$\theta_1(\mathrm{Fo}) = \frac{1+\frac{\mathrm{Bi}_0}{2}}{1+\mathrm{Bi}_0} - \sum_{n=1}^{\infty} A_n \left\{ \frac{1-\cos\mu_n}{\mu_n^2} + \frac{\sin\mu_n}{\mathrm{Bi}_0\,\mu_n} \right\} \exp(-\mu_n^2\,\mathrm{Fo}). \tag{5-3-7}$$

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$$\theta_2(\mathrm{Fo}) = \frac{\mathrm{Bi}_0}{1+\mathrm{Bi}_0} + 12\sum_{n=1}^{\infty} A_n \left\{ \frac{1+\cos\mu_n}{2\mu_n} - \frac{\sin\mu_n}{\mu_n^2} + \right.$$

$$\left. + \frac{1-\cos\mu_n}{\mathrm{Bi}_0\,\mu_n^2} - \frac{\sin\mu_n}{2\mathrm{Bi}_0\,\mu_n} \right\} \exp(-\mu_n^2\,\mathrm{Fo}). \tag{5-3-8}$$

5-4. Plate Is Heated So that the Temperature $T_r = T_c = \text{const}$

The transform of Eq. (5-1-6) can be written /35

$$\frac{d\bar{\theta}(1, s)}{d\xi} + \mathrm{Bi}_1 \{\bar{\theta}(1, s) - \bar{\theta}_r(s)\} = 0. \tag{5-4-1}$$

After substitution of the constant values found from boundary conditions (5-2-1) and (5-4-1), Eq. (4-2-2) takes the form

$$\bar{\theta}(\xi, s) = \bar{\theta}_r(s) \frac{\operatorname{ch}\xi\sqrt{s} + \frac{\mathrm{Bi}_0}{\sqrt{s}}\operatorname{sh}\xi\sqrt{s}}{\left(1 + \frac{\mathrm{Bi}_0}{\mathrm{Bi}_1}\right)\operatorname{ch}\sqrt{s} + \left(\frac{\mathrm{Bi}_0}{\sqrt{s}} + \frac{\sqrt{s}}{\mathrm{Bi}_1}\right)\operatorname{sh}\sqrt{s}}. \tag{5-4-2}$$

For $T_r = T_c = \text{const}$ dimensionless temperature $\theta_r(\mathrm{Fo}) = 1$. We substitute $\theta_r(s) = 1/s$ into (5-4-2), use theorems (2-4) for the temperature field and obtain [39]

$$\theta(\xi, \mathrm{Fo}) = \frac{1 + \mathrm{Bi}_0\xi}{1 + \mathrm{Bi}_0 + \frac{\mathrm{Bi}_0}{\mathrm{Bi}_1}} - \sum_{n=1}^{\infty} A_n \left\{\cos\mu_n\xi + \frac{\mathrm{Bi}_0}{\mu_n}\sin\mu_n\xi\right\} \exp(-\mu_n^2\,\mathrm{Fo}); \tag{5-4-3}$$

μ_n are roots of the characteristic equation

$$\operatorname{cotan}\mu = \frac{\mu^2 - \mathrm{Bi}_0\,\mathrm{Bi}_1}{\mu(\mathrm{Bi}_0 + \mathrm{Bi}_1)}; \tag{5-4-4}$$

A_n are initial temperature amplitudes

$$A_n = \left\{\left(1 + \frac{\mathrm{Bi}_0}{\mathrm{Bi}_1}\right)\frac{\sin\mu_n\cos\mu_n + \mu_n}{2\sin\mu_n} + \frac{\mathrm{Bi}_0}{\mu_n}\sin\mu_n\right\}^{-1}. \tag{5-4-5}$$

The intersection points of the curve $y = \operatorname{cotan}\mu c$ with the hyperbola

$$y_2 = \frac{\mu^2 - \mathrm{Bi}_0\,\mathrm{Bi}_1}{\mu(\mathrm{Bi}_0 + \mathrm{Bi}_1)}$$

yield the roots of Eq. (5-4-4); their number is infinite.

The roots μ and the initial temperature amplitudes A_n were calculated by the computer "Minsk-2" and are given in the tables of Appendix III. If Bi_0 and Bi_1 exchange places, the roots of Eq. (5-4-4) do not change.

These tables can be widely used with transport phenomena. The analytic solution in [40] requires computation of the roots of characteristic equation $z^2 - (\lambda_1 + \lambda_2) z \operatorname{cotan} z - \lambda_1\lambda_2 = 0$ which after substitution of $z = \mu$, $\lambda_1 = Bi_0$ and $\lambda_2 = Bi_2$ is identical with (5-4-4). Emery [41] used the solution in [4] which has the characteristic equation $\tan \beta = \frac{\beta \cdot 2\bar{h}}{\beta^2 - h^2}$. In [42, 43] a similar equation was obtained: $\tan \alpha l = \frac{2\alpha h}{\alpha^2 - h^2}$. These equations, following substitution of $\mu = \beta = \alpha l$, $\bar{h} = hl = Bi_0 = Bi_1$ are also identical with (5-4-4). The solution in [44] leads to $\operatorname{cotan} \mu = \frac{\mu}{Bi} - \frac{\beta}{\mu}$ which after substitution of

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$$Bi = Bi_0 + Bi_1 \text{ and } \beta = \frac{Bi_0 Bi_1}{Bi_0 + Bi_1}$$

also is identical with Eq. (5-4-4). One solution in [45] has the characteristic equation

$$\tan\left\{\sqrt{b^2\beta^2 - \left(\frac{Vb}{2D}\right)^2}\left(\frac{a}{b}\right)\right\} = \frac{\sqrt{b^2\beta^2 - \left(\frac{Vb}{2D}\right)^2}}{\frac{hb}{D} + \frac{Vb}{2D}},$$

which after the substitution of

$$\mu = \sqrt{b^2\beta^2 - \left(\frac{Vb}{2D}\right)^2}\left(\frac{a}{b}\right),$$

$$\left(\frac{ha}{D}\right) = Bi_0 + Bi_1 \quad \left(\frac{Va}{2D}\right) = Bi_0$$

is identical with Eq. (5-4-4), too.

While editing the final version of this book, I learned that Glikman [46] found solution (5-4-3) before I did. He assumed that at an initial time $\tau = 0$ on both sides of the plate the temperature changes from T_0 to $T_1 = \text{const}$ or $T_2 = \text{const}$. Since Fourier's differential equation is linear, Glikman's solution can be readily found from Eq. (5-4-3) by superposition.

We substitute solution (5-4-3) into (5-1-8) and (5-1-9), compute the integrals and get

$$\theta_1(\mathrm{Fo}) = \frac{1 + \mathrm{Bi}_0/2}{1 + \mathrm{Bi}_0 + \mathrm{Bi}_0/\mathrm{Bi}_1} -$$

$$-\sum_{n=1}^{\infty} A_n \left\{ \mathrm{Bi}_0 \frac{1 - \cos\mu_n}{\mu_n^2} + \frac{\sin\mu_n}{\mu_n} \right\} \exp(-\mu_n^2 \mathrm{Fo}); \qquad (5\text{-}4\text{-}6)$$

$$\theta_2(\mathrm{Fo}) = \frac{\mathrm{Bi}_0}{1 + \mathrm{Bi}_0 + \frac{\mathrm{Bi}_0}{\mathrm{Bi}_1}} + \qquad \underline{/37}$$

$$+ 12 \sum_{n=1}^{\infty} A_n \left\{ \frac{\mathrm{Bi}_0}{2\mu_n^2} \left(1 + \cos\mu_n - 2\frac{\sin\mu_n}{\mu_n} \right) + \right.$$

$$\left. + \frac{1 - \cos\mu_n}{\mu_n^2} - \frac{\sin\mu_n}{2\mu_n} \right\} \exp(-\mu_n^2 \mathrm{Fo}). \qquad (5\text{-}4\text{-}7)$$

Assuming for (5-4-3) $\mathrm{Bi}_0 = 0$ we obtain the well-known solution for the temperature field of a symmetrically heated plate.

If $\mathrm{Bi}_1 \to \infty$, the temperature of the plate's outer surface immediately becomes $\theta(1, \mathrm{Fo}) = 1$ and all the solutions obtained are converted into the solutions discussed in Section 5-2.

Because of inequalities $\mu_1 < \mu_2 < \mu_3 < \ldots < \mu_n$ the series in the above solutions converge rapidly. The tables in Appendix III permit computation using the first six terms of a series. A high accuracy of computations is obtained also for small values of Fo. But for very small Fo values, more than six terms must be used, the roots of the characteristic equation and the initial temperature amplitude have not been tabulated for these cases.

The advantage of the operator method over the classical one consists in that it yields approximate solutions applicable to small values of Fo.

Transforming solution (5-4-2) in the same way as we did with (4-2-6) we get

$$\bar{\theta}(\xi, s) = \frac{1}{s\left(1 + \frac{\mathrm{Bi}_0}{\sqrt{s}}\right)\left(1 + \frac{\sqrt{s}}{\mathrm{Bi}_1}\right)} \left\{ \exp[-(1-\xi)\sqrt{s}] + \right.$$

$$+ \exp[-(1+\xi)\sqrt{s}] + \frac{\mathrm{Bi}_0}{\sqrt{s}} \exp[-(1-\xi)\sqrt{s}] -$$

$$\left. - \frac{\mathrm{Bi}_0}{\sqrt{s}} \exp\left[-(1+\xi)\sqrt{s}\right] \right\} \times$$

$$\times\left[\begin{array}{l}\cdots\\ 1+\dfrac{\mathrm{Bi}_0}{\mathrm{Bi}_1}-\dfrac{\mathrm{Bi}_0}{\sqrt{s}}-\dfrac{\sqrt{s}}{\mathrm{Bi}_1}\\ 1+\dfrac{\mathrm{Bi}_0}{1+\dfrac{\mathrm{Bi}_0}{\mathrm{Bi}_1}+\dfrac{\mathrm{Bi}_0}{\sqrt{s}}+\dfrac{\sqrt{s}}{\mathrm{Bi}_1}}\exp(-2\sqrt{s})\end{array}\right]^{-1}. \tag{5-4-8}$$

If we expand the term in brackets into a geometric series, we have /38

$$\bar{\theta}(\xi, s)=\frac{1}{1-\dfrac{\mathrm{Bi}_0}{\mathrm{Bi}_1}}\left\{\frac{\exp[-(1-\xi)\sqrt{s}]}{\sqrt{s}(\sqrt{s}+\mathrm{Bi}_0)}+\frac{\exp[-(1+\xi)\sqrt{s}]}{\sqrt{s}(\sqrt{s}+\mathrm{Bi}_0)}+\right.$$

$$+\frac{\mathrm{Bi}_0\exp[-(1-\xi)\sqrt{s}]}{s(\sqrt{s}+\mathrm{Bi}_0)}-\frac{\mathrm{Bi}_0\exp[-(1+\xi)\sqrt{s}]}{s(\sqrt{s}+\mathrm{Bi}_0)}-$$

$$-\frac{\exp[-(1-\xi)\sqrt{s}]}{\sqrt{s}(\sqrt{s}+\mathrm{Bi}_1)}-\frac{\exp[-(1+\xi)\sqrt{s}]}{\sqrt{s}(\sqrt{s}+\mathrm{Bi}_1)}-$$

$$\left.-\frac{\mathrm{Bi}_0\exp[-(1-\xi)\sqrt{s}]}{s(\sqrt{s}+\mathrm{Bi}_1)}+\frac{\mathrm{Bi}_0\exp[-(1+\xi)\sqrt{s}]}{s(\sqrt{s}+\mathrm{Bi}_1)}\right\}. \tag{5-4-9}$$

Inverting, we get [7]

$$\theta(\xi, \mathrm{Fo})=\operatorname{erfc}\frac{1-\xi}{2\sqrt{\mathrm{Fo}}}-\operatorname{erfc}\frac{1+\xi}{2\sqrt{\mathrm{Fo}}}-$$

$$-\exp[(1-\xi)\mathrm{Bi}_1+\mathrm{Bi}_1^2\,\mathrm{Fo}]\operatorname{erfc}\left[\frac{1-\xi}{2\sqrt{\mathrm{Fo}}}+\mathrm{Bi}_1\sqrt{\mathrm{Fo}}\right]+$$

$$+\frac{2}{1-\dfrac{\mathrm{Bi}_0}{\mathrm{Bi}_1}}\exp[(1+\xi)\mathrm{Bi}_0+$$

$$+(\mathrm{Bi}_0\sqrt{\mathrm{Fo}})^2]\operatorname{erfc}\left[\frac{1+\xi}{2\sqrt{\mathrm{Fo}}}+\mathrm{Bi}_0\sqrt{\mathrm{Fo}}\right]-$$

$$-\frac{1+\dfrac{\mathrm{Bi}_0}{\mathrm{Bi}_1}}{1-\dfrac{\mathrm{Bi}_0}{\mathrm{Bi}_1}}\exp[(1+\xi)\mathrm{Bi}_1+$$

$$+(\mathrm{Bi}_1\sqrt{\mathrm{Fo}})^2]\operatorname{erfc}\left[\frac{1+\xi}{2\sqrt{\mathrm{Fo}}}+\mathrm{Bi}_1\sqrt{\mathrm{Fo}}\right]. \tag{5-4-10}$$

Assuming $\mathrm{Bi}_0 = 0$ in (5-4-10), we get the solution given in [3].

Substitution of (5-4-10) into (5-1-8) and (5-1-9) leads to difficulties in integrating. It is more convenient to find $\theta_1(\mathrm{Fo})$ and $\theta_2(\mathrm{Fo})$ proceeding from solution (5-4-9) for the transform. Expressions (5-1-8) and (5-1-9) for the transform take the form /39

$$\bar{\theta}_1(s) = \int_0^1 \bar{\theta}(\xi, s)\, d\xi; \tag{5-4-11}$$

$$\bar{\theta}_2(s) = 12 \int_0^1 \left(\xi - \frac{1}{2}\right) \bar{\theta}(\xi, s)\, d\xi. \tag{5-4-12}$$

We substitute (5-4-9) into (5-4-11) and (5-4-12), integrate and get

$$\bar{\theta}_1(s) = \frac{1}{1 - \frac{Bi_0}{Bi_1}} \left\{ \frac{1 - \exp(-2\sqrt{s})}{s(\sqrt{s} + Bi_0)} + \frac{Bi_0 [1 - \exp(-\sqrt{s})]^2}{s\sqrt{s}(\sqrt{s} + Bi_0)} - \right.$$

$$\left. - \frac{1 - \exp(-2\sqrt{s})}{s(\sqrt{s} + Bi_1)} - \frac{Bi_0 [1 - \exp(-\sqrt{s})]^2}{s\sqrt{s}(\sqrt{s} + Bi_1)} \right\}; \tag{5-4-13}$$

$$\bar{\theta}_2(s) = \frac{1}{1 - \frac{Bi_0}{Bi_1}} \left\{ - \frac{[1 - \exp(-\sqrt{s})]^2}{s\sqrt{s}(\sqrt{s} + Bi_0)} - \frac{1 - \exp(-2\sqrt{s})}{2s(\sqrt{s} + Bi_0)} - \right.$$

$$- \frac{Bi_0 [1 - \exp(-2\sqrt{s})]}{s^2(\sqrt{s} + Bi_0)} + \frac{Bi_0 [1 + \exp(-\sqrt{s})]^2}{2s\sqrt{s}(\sqrt{s} + Bi_0)} +$$

$$+ \frac{[1 - \exp(-\sqrt{s})]^2}{s\sqrt{s}(\sqrt{s} + Bi_1)} - \frac{1 - \exp(-2\sqrt{s})}{2s(\sqrt{s} + Bi_1)} -$$

$$\left. - \frac{Bi_0 [1 - \exp(-2\sqrt{s})]}{s^2(\sqrt{s} + Bi_1)} - \frac{Bi_0 [1 + \exp(-\sqrt{s})]^2}{2s\sqrt{s}(\sqrt{s} + Bi_1)} \right\} \tag{5-4-14}$$

Since we are seeking a solution for exceedingly small values of Fo, Eqs. (5-4-13) and (5-4-14) can be simplified. For small Fo values the quantity $\sqrt{s}$ is large (Fo $\to$ 0, $\sqrt{s} \to \infty$), hence we may take $1 \pm \exp(-\sqrt{s}) \approx 1$. The expression for θ_1 (s) and θ_2 (s) will then be

$$\bar{\theta}_1(s) = \frac{1}{1 - \frac{Bi_0}{Bi_1}} \left\{ \frac{1}{s(\sqrt{s} + Bi_0)} + \frac{Bi_0}{s\sqrt{s}(\sqrt{s} + Bi_0)} - \right.$$

$$\left. - \frac{1}{s(\sqrt{s} + Bi_1)} - \frac{Bi_0}{s\sqrt{s}(\sqrt{s} + Bi_1)} \right\}; \tag{5-4-16}$$

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$$\bar{\theta}_2(s) = \frac{12}{1 - \frac{Bi_0}{Bi_1}} \left\{ \frac{\frac{Bi_0}{2} - 1}{s\sqrt{s}(\sqrt{s} + Bi_0)} + \frac{1}{2s(\sqrt{s} + Bi_0)} - \right.$$

$$\left. - \frac{Bi_0}{s^2(\sqrt{s} + Bi_0)} - \frac{\frac{Bi_0}{2} - 1}{s\sqrt{s}(\sqrt{s} + Bi_1)} - \frac{1}{2s(\sqrt{s} + Bi_1)} + \right.$$

$$+\frac{\mathrm{Bi}_0}{s^2(\sqrt{s}+\mathrm{Bi}_1)}\Bigg\}. \qquad (5\text{-}4\text{-}16)$$

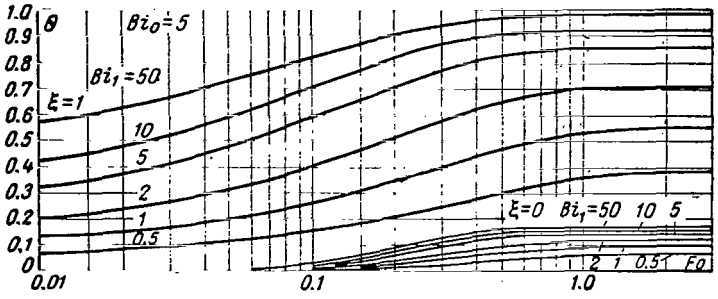

Figure 11.

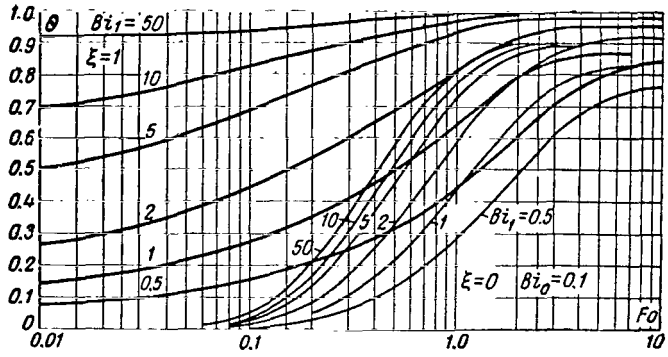

Figure 12.

Inverting is performed with the table of transforms /41

$$\theta_1(\mathrm{Fo}) = 2\sqrt{\frac{\mathrm{Fo}}{\pi}} - \frac{1}{\mathrm{Bi}_1} + \frac{1}{\mathrm{Bi}_1}\exp(\mathrm{Bi}_1^2\,\mathrm{Fo})\,\mathrm{erfc}\,(\mathrm{Bi}_1\sqrt{\mathrm{Fo}}); \qquad (5\text{-}4\text{-}17)$$

$$\theta_2(\mathrm{Fo}) = 6\left(1+\frac{2}{\mathrm{Bi}_1}\right)\left\{2\sqrt{\frac{\mathrm{Fo}}{\pi}} - \frac{1}{\mathrm{Bi}_1} + \frac{1}{\mathrm{Bi}_1}\exp(\mathrm{Bi}_1^2\,\mathrm{Fo})\,\mathrm{erfc}\,(\mathrm{Bi}_1\sqrt{\mathrm{Fo}})\right\}. \qquad (5\text{-}4\text{-}18)$$

Figures 11 and 12 show the change in the dimensionless temperature θ as a function of dimensionless time for fixed values of Bi_0 and Bi_1.

5-5. The Plate Is Heated So that the Temperature $T_r = T_0 + b\tau$

Dimensionless temperature $\theta_r(\mathrm{Fo}) = \mathrm{Pd}\,\mathrm{Fo}$. We substitute $\bar{\theta}_r(s) = \mathrm{Pd}/s^2$ into (5-4-2), apply Theorems (2-4) to the temperature field and find [39]

$$\frac{\theta(\xi,\ \mathrm{Fo})}{\mathrm{Pd}} = \frac{1+\mathrm{Bi}_0\xi}{1+\mathrm{Bi}_0+\frac{\mathrm{Bi}_0}{\mathrm{Bi}_1}}\left\{\mathrm{Fo}-\frac{1}{2}\left(1+\right.\right.$$

$$\left.\left.+\frac{\frac{2}{\mathrm{Bi}_1}-\frac{2}{3}\mathrm{Bi}_0}{1+\mathrm{Bi}_0+\frac{\mathrm{Bi}_0}{\mathrm{Bi}_1}}-\xi^2\frac{1+\frac{1}{3}\mathrm{Bi}_0\xi}{1+\mathrm{Bi}_0\xi}\right)\right\}+$$

$$+\sum_{n=1}^{\infty}A_n\frac{1}{\mu_n^2}\left[\cos\mu_n\xi+\frac{\mathrm{Bi}_0}{\mu_n}\sin\mu_n\xi\right]\exp(-\mu_n^2\,\mathrm{Fo}) \qquad (5\text{-}5\text{-}1)$$

where μ_n and A_n are determined respectively from Eqs. (5-4-4) and (5-4-5).

For $\mathrm{Bi}_0 = 0$ solution (5-5-1) becomes identical with that given in [3].

Following substitution of solution (5-5-1) into (5-1-8) and (5-1-9), and computation of integrals, we have

$$\frac{\theta_1(\mathrm{Fo})}{\mathrm{Pd}} = \left\{\mathrm{Fo}-\frac{1}{2}\left(1+\frac{\frac{2}{\mathrm{Bi}_1}-\frac{2}{3}\mathrm{Bi}_0}{1+\mathrm{Bi}_0+\frac{\mathrm{Bi}_0}{\mathrm{Bi}_1}}\right)\right\}\times$$

$$\times\frac{1+\frac{\mathrm{Bi}_0}{2}}{1+\mathrm{Bi}_0+\frac{\mathrm{Bi}_0}{\mathrm{Bi}_1}}-\frac{1}{3}\frac{1+\frac{1}{4}\mathrm{Bi}_0}{1+\mathrm{Bi}_0+\frac{\mathrm{Bi}_0}{\mathrm{Bi}_1}}+ \qquad /42$$

$$+\sum_{n=1}^{\infty}A_n\frac{1}{\mu_n^2}\frac{\sin\mu_n}{\mu_n}\left(1+\frac{\mathrm{Bi}_0}{\mu_n}\tan\frac{\mu_n}{2}\right)\exp(-\mu_n^2\,\mathrm{Fo}); \qquad (5\text{-}5\text{-}2)$$

$$\frac{\theta_2(\mathrm{Fo})}{\mathrm{Pd}} = \left\{\mathrm{Fo}-\frac{1}{2}\left[1+\frac{\frac{2}{\mathrm{Bi}_1}-\frac{2}{3}\mathrm{Bi}_0}{1+\mathrm{Bi}_0+\frac{\mathrm{Bi}_0}{\mathrm{Bi}_1}}\right]\right\}\frac{\mathrm{Bi}_0}{1+\mathrm{Bi}_0+\frac{\mathrm{Bi}_0}{\mathrm{Bi}_1}}-$$

$$-\frac{1+\frac{3}{10}\mathrm{Bi}_0}{1+\mathrm{Bi}_0+\frac{\mathrm{Bi}_0}{\mathrm{Bi}_1}}+12\sum_{n=1}^{\infty}A_n\frac{1}{\mu_n^2}\left\{\left(1-\frac{\mathrm{Bi}_0}{2}\right)\cos\mu_n+\right.$$

$$\left.+\left(\frac{\mu_n}{2}+\frac{\mathrm{Bi}_0}{\mu_n}\right)\sin\mu_n-\left(1+\frac{\mathrm{Bi}_0}{2}\right)\right\}\exp(-\mu_n^2\,\mathrm{Fo}). \qquad (5\text{-}5\text{-}3)$$

5-6. The Plate Is Heated So that the Temperature

$$T_\tau = T_c (T_c - T_0) \exp(-b\tau)$$

Let dimensionless temperature $\theta_\tau(\mathrm{Fo}) = 1 - \exp(-\mathrm{Pd}\,\mathrm{Fo})$. After substituting $\overline{\theta}_\tau(s) = \frac{1}{s\left(1+\frac{s}{\mathrm{Pd}}\right)}$ into (5-4-2) and applying theorems (2-4) for the temperature field, we find [39]

$$\theta(\xi, \mathrm{Fo}) = \frac{1 + \mathrm{Bi}_0 \xi}{1 + \mathrm{Bi}_0 + \frac{\mathrm{Bi}_0}{\mathrm{Bi}_1}} -$$

$$- \frac{\cos\sqrt{\mathrm{Pd}}\,\xi + \frac{\mathrm{Bi}_0}{\sqrt{\mathrm{Pd}}}\sin\sqrt{\mathrm{Pd}}\,\xi}{\left(1+\frac{\mathrm{Bi}_0}{\mathrm{Bi}_1}\right)\cos\sqrt{\mathrm{Pd}} + \left(\frac{\mathrm{Bi}_0}{\sqrt{\mathrm{Pd}}} - \frac{\sqrt{\mathrm{Pd}}}{\mathrm{Bi}_1}\right)\sin\sqrt{\mathrm{Pd}}} \exp(-\mathrm{Pd}\,\mathrm{Fo}) -$$

$$- \sum_{n=1}^{\infty} A_n \left(1 - \frac{\mu_n^2}{\mathrm{Pd}}\right)^{-1} \left\{\cos\mu_n\xi + \frac{\mathrm{Bi}_0}{\mu_n}\sin\mu_n\xi\right\} \exp(-\mu_n^2\,\mathrm{Fo}). \tag{5-6-1}$$

where μ_n and A_n are determined respectively from Eqs. (5-4-4) and (5-4-5). /43

For $\mathrm{Bi}_0 = 0$ solution (5-6-1) becomes identical with that given in [3].

We substitute the solution of (5-6-1) into (5-1-8) and (5-1-9), compute the integrals and get

$$\theta_1(\mathrm{Fo}) = \frac{1 + \frac{\mathrm{Bi}_0}{2}}{1 + \mathrm{Bi}_0 + \frac{\mathrm{Bi}_0}{\mathrm{Bi}_1}} -$$

$$- \frac{1}{\sqrt{\mathrm{Pd}}} \frac{\sin\sqrt{\mathrm{Pd}} + \frac{\mathrm{Bi}_0}{\sqrt{\mathrm{Pd}}}(1-\cos\sqrt{\mathrm{Pd}})}{\left(1+\frac{\mathrm{Bi}_0}{\mathrm{Bi}_1}\right)\cos\sqrt{\mathrm{Pd}} + \left(\frac{\mathrm{Bi}_0}{\sqrt{\mathrm{Pd}}} - \frac{\sqrt{\mathrm{Pd}}}{\mathrm{Bi}_1}\right)\sin\sqrt{\mathrm{Pd}}} \times$$

$$\times \exp(-\mathrm{Pd}\,\mathrm{Fo}) - \sum_{n=1}^{\infty} A_n \left(1 - \frac{\mu_n^2}{\mathrm{Pd}}\right)^{-1} \frac{\sin\mu_n}{\mu_n} \times$$

$$\times \left[1 + \frac{\mathrm{Bi}_0}{\mu_n}\tan\frac{\mu_n}{2}\right] \exp(-\mu_n^2\,\mathrm{Fo}); \tag{5-6-2}$$

$$\theta_2(\mathrm{Fo}) = \frac{\mathrm{Bi}_0}{1+\mathrm{Bi}_0+\frac{\mathrm{Bi}_0}{\mathrm{Bi}_1}} -$$

$$-12\frac{\left(1-\frac{\mathrm{Bi}_0}{2}\right)\cos\sqrt{\mathrm{Pd}}+\left(\frac{\sqrt{\mathrm{Pd}}}{2}+\frac{\mathrm{Bi}_0}{\sqrt{\mathrm{Pd}}}\right)\sin\sqrt{\mathrm{Pd}}-\left(1+\frac{\mathrm{Bi}_0}{2}\right)}{\mathrm{Pd}\left\{\left(1+\frac{\mathrm{Bi}_0}{\mathrm{Bi}_1}\right)\cos\sqrt{\mathrm{Pd}}+\left(\frac{\mathrm{Bi}_0}{\sqrt{\mathrm{Pd}}}-\frac{\sqrt{\mathrm{Pd}}}{\mathrm{Bi}_1}\right)\sin\sqrt{\mathrm{Pd}}\right\}}\times$$

$$\times\exp(-\mathrm{Pd}\,\mathrm{Fo}) - 12\sum_{n=1}^{\infty}A_n\left(1-\frac{\mu_n^2}{\mathrm{Pd}}\right)^{-1}\frac{1}{\mu_n^2}\times$$

$$\times\left\{\left(1-\frac{\mathrm{Bi}_0}{2}\right)\cos\mu_n+\left(\frac{\mu_n}{2}+\frac{\mathrm{Bi}_0}{\mu_n}\right)\sin\mu_n-\right.$$

$$\left.-\left(1+\frac{\mathrm{Bi}_0}{2}\right)\right\}\exp(-\mu_n^2\,\mathrm{Fo}). \qquad (5\text{-}6\text{-}3)$$

5-7. The Plate Is Heated So that the Temperature /44

$$T_r = T_c + \sum_{k=1}^{p} T_k \exp(-d_k\tau)$$

As noted in Section 4-8, Eq. (4-8-2) is the most convenient way of representing recovery temperature for both types of flight; in dimensionless form it is written as Eq. (4-8-4). We substitute (4-8-4) into (5-4-2), apply Theorems (2-4) and get [61]

$$\theta(\xi,\ \mathrm{Fo}) = \frac{1+\mathrm{Bi}_0\xi}{1+\mathrm{Bi}_0+\frac{\mathrm{Bi}_0}{\mathrm{Bi}_1}} +$$

$$+\sum_{k=1}^{p}\delta_k\frac{\cos\sqrt{\beta_k}\xi+\frac{\mathrm{Bi}_0}{\sqrt{\beta_k}}\sin\sqrt{\beta_k}\,\xi}{\left(1+\frac{\mathrm{Bi}_0}{\mathrm{Bi}_1}\right)\cos\sqrt{\beta_k}+\left(\frac{\mathrm{Bi}_0}{\sqrt{\beta_k}}-\frac{\sqrt{\beta_k}}{\mathrm{Bi}_1}\right)\sin\sqrt{\beta_k}}\times$$

$$\times\exp(-\beta_k\,\mathrm{Fo}) - \sum_{n=1}^{\infty}A_n\left\{\cos\mu_n\xi+\frac{\mathrm{Bi}_0}{\mu_n}\sin\mu_n\xi\right\}\exp(-\mu_n^2\,\mathrm{Fo}) -$$

$$-\sum_{k=1}^{p}\sum_{n=1}^{\infty}A_n\frac{\delta_k}{1-\frac{\beta_k}{\mu_n^2}}\left\{\cos\mu_n\xi+\frac{\mathrm{Bi}_0}{\mu_n}\sin\mu_n\xi\right\}\exp(-\mu_n^2\,\mathrm{Fo}), \qquad (5\text{-}7\text{-}1)$$

where μ_n and A_n are determined from Eqs. (5-4-4) and (5-4-5).

We substitute the solution (5-7-1) into (5-1-8) and (5-1-9), compute the integrals and get

$$\theta_1(\mathrm{Fo}) = \frac{1+\frac{\mathrm{Bi}_0}{2}}{1+\mathrm{Bi}_0+\frac{\mathrm{Bi}_0}{\mathrm{Bi}_1}} +$$

$$+\sum_{k=1}^{p} \frac{\delta_k}{\sqrt{\beta_k}} \frac{\sin\sqrt{\beta_k} + \frac{\mathrm{Bi}_0}{\sqrt{\beta_k}}(1-\cos\sqrt{\beta_k})}{\left(1+\frac{\mathrm{Bi}_0}{\mathrm{Bi}_1}\right)\cos\sqrt{\beta_k} + \left(\frac{\mathrm{Bi}_0}{\sqrt{\beta_k}} - \frac{\sqrt{\beta_k}}{\mathrm{Bi}_1}\right)\sin\sqrt{\beta_k}} \times$$

$$\times \exp(-\beta_k \mathrm{Fo}) - \sum_{n=1}^{\infty} A_n \frac{\sin\mu_n}{\mu_n}\left[1+\frac{\mathrm{Bi}_0}{\mu_n}\mathrm{tg}\frac{\mu_n}{2}\right]\times$$

$$\times \exp(-\mu_n^2 \mathrm{Fo}) - \sum_{k=1}^{p}\sum_{n=1}^{\infty} A_n \frac{\delta_k}{1-\frac{\beta_k}{\mu_n^2}} \frac{\sin\mu_n}{\mu_n}\left[1+\right.$$

$$\left.+\frac{\mathrm{Bi}_0}{\mu_n}\tan\frac{\mu_n}{2}\right]\exp(-\mu_n^2 \mathrm{Fo}); \qquad (5\text{-}7\text{-}2)$$

$$\theta_2(\mathrm{Fo}) = -\frac{\mathrm{Bi}_0}{1+\mathrm{Bi}_0+\frac{\mathrm{Bi}_0}{\mathrm{Bi}_1}} + 12\sum_{k=1}^{p}\frac{\delta_k}{\sqrt{\beta_k}}\times$$

$$\times \frac{\left(1-\frac{\mathrm{Bi}_0}{2}\right)\cos\sqrt{\beta_k} + \left(\frac{\sqrt{\beta_k}}{2}+\frac{\mathrm{Bi}_0}{\sqrt{\beta_k}}\right)\sin\sqrt{\beta_k} - \left(1+\frac{\mathrm{Bi}_0}{2}\right)}{\left(1+\frac{\mathrm{Bi}_0}{\mathrm{Bi}_1}\right)\cos\sqrt{\beta_k} + \left(\frac{\mathrm{Bi}_0}{\sqrt{\beta_k}} - \frac{\sqrt{\beta_k}}{\mathrm{Bi}_1}\right)\sin\sqrt{\beta_k}} \times$$

$$\times \exp(-\beta_k \mathrm{Fo}) - 12\sum_{n=1}^{p} A_n \frac{1}{\mu_n^2}\left\{\left(1-\frac{\mathrm{Bi}_0}{2}\right)\cos\mu_n + \right.$$

$$\left.+\left(\frac{\mu_n}{2}+\frac{\mathrm{Bi}_0}{\mu_n}\right)\sin\mu_n - \left(1+\frac{\mathrm{Bi}_0}{2}\right)\right\}\exp(-\mu_n^2 \mathrm{Fo}) -$$

$$-12\sum_{k=1}^{p}\sum_{n=1}^{\infty} A_n \frac{1}{\mu_n^2}\frac{\delta_k}{1-\frac{\beta_k}{\mu_n^2}}\left\{\left(1-\frac{\mathrm{Bi}_0}{2}\right)\cos\mu_n + \right.$$

$$\left.+\left(\frac{\mu_n}{2}+\frac{\mathrm{Bi}_0}{\mu_n}\right)\sin\mu_n - \left(1+\frac{\mathrm{Bi}_0}{2}\right)\right\}\exp(-\mu_n^2 \mathrm{Fo}). \qquad (5\text{-}7\text{-}3)$$

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5-8. The Plate Is Heated So that the Temperature $T_r = T_r(\tau)$

If recovery temperature is a known function of time $\theta_r(\mathrm{Fo}) = F(\mathrm{Fo})$, the temperature field for any instant can be readily obtained by means of Duhamel's theorem

$$\theta(\xi, \mathrm{Fo}) = F(0)\left\{\frac{1+\mathrm{Bi}_0\xi}{1+\mathrm{Bi}_0+\frac{\mathrm{Bi}_0}{\mathrm{Bi}_1}} - \right.$$

$$\left. -\sum_{n=1}^{\infty} A_n\left[\cos\mu_n\xi + \frac{\mathrm{Bi}_0}{\mu_n}\sin\mu_n\xi\right]\exp(-\mu_n^2\,\mathrm{Fo})\right\} +$$

$$+\frac{1+\mathrm{Bi}_0\xi}{1+\mathrm{Bi}_0+\frac{\mathrm{Bi}_0}{\mathrm{Bi}_1}}\int_0^{\mathrm{Fo}} F'(\mathrm{Fo}-\mathrm{Fo}^*)\,d\,\mathrm{Fo}^* -$$

$$-\sum_{n=1}^{\infty} A_n\left[\cos\mu_n\xi + \frac{\mathrm{Bi}_0}{\mu_n}\sin\mu_n\xi\right]\times$$

$$\times\int_0^{\mathrm{Fo}} \exp(-\mu_n^2\,\mathrm{Fo})\,F'(\mathrm{Fo}-\mathrm{Fo}^*)\,d\,\mathrm{Fo}^* \qquad (5\text{-}8\text{-}1)$$

where μ_n and A_n are determined from Eqs. (5-4-4) and (5-4-5).

We substitute the solution (5-7-1) into (5-1-8) and (5-1-9), compute the integrals and obtain

$$\theta_1(\mathrm{Fo}) = F(0)\left\{\frac{1+\frac{\mathrm{Bi}_0}{2}}{1+\mathrm{Bi}_0+\frac{\mathrm{Bi}_0}{\mathrm{Bi}_1}} - \right.$$

$$\left. -\sum_{n=1}^{\infty} A_n\frac{1}{\mu_n^2}\left[\mathrm{Bi}_0 - \mathrm{Bi}_0\cos\mu_n + \mu_n\sin\mu_n\right]\exp(-\mu_n^2\,\mathrm{Fo})\right\} +$$

$$+\frac{1+\frac{\mathrm{Bi}_0}{2}}{1+\mathrm{Bi}_0+\frac{\mathrm{Bi}_0}{\mathrm{Bi}_1}}\int_0^{\mathrm{Fo}} F'(\mathrm{Fo}-\mathrm{Fo}^*)\,d\,\mathrm{Fo}^* -$$

$$-\sum_{n=1}^{\infty} A_n\frac{1}{\mu_n^2}\left[\mathrm{Bi}_0 - \mathrm{Bi}_0\cos\mu_n + \mu_n\sin\mu_n\right]\times$$

$$\times\int_0^{\mathrm{Fo}} \exp(-\mu_n^2\,\mathrm{Fo}^*)\,F'(\mathrm{Fo}-\mathrm{Fo}^*)\,d\,\mathrm{Fo}^*; \qquad (5\text{-}8\text{-}2)$$

$$\theta_2(\mathrm{Fo}) = F(0)\left\{\frac{\mathrm{Bi}_0}{1+\mathrm{Bi}_0+\frac{\mathrm{Bi}_0}{\mathrm{Bi}_1}} + \right.$$

$$+ 12\sum_{n=1}^{\infty} A_n\frac{1}{\mu_n^2}\left[\left(1+\frac{\mathrm{Bi}_0}{2}\right) - \left(1-\frac{\mathrm{Bi}_0}{2}\right)\cos\mu_n -\right.$$

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$$-\left(\frac{\mu_n}{2}+\frac{\mathrm{Bi}_0}{\mu_n}\right)\sin\mu_n\Big]\exp(-\mu_n^2\,\mathrm{Fo})\Big\}+$$

$$+\frac{\mathrm{Bi}_0}{1+\mathrm{Bi}_0+\dfrac{\mathrm{Bi}_0}{\mathrm{Bi}_1}}\int_0^{\mathrm{Fo}}F'(\mathrm{Fo}-\mathrm{Fo}^*)\,d\,\mathrm{Fo}^*+$$

$$+12\sum_{n=1}^{\infty}A_n\frac{1}{\mu_n^2}\Big[\Big(1+\frac{\mathrm{Bi}_0}{2}\Big)-\Big(1-\frac{\mathrm{Bi}_0}{2}\Big)\cos\mu_n-$$

$$-\left(\frac{\mu_n}{2}+\frac{\mathrm{Bi}_0}{2}\right)\sin\mu_n\Big]\int_0^{\mathrm{Fo}}\exp(-\mu_n^2\,\mathrm{Fo}^*)\,F'(\mathrm{Fo}-\mathrm{Fo}^*)\,d\,\mathrm{Fo}^*. \qquad (5\text{-}8\text{-}3)$$

6. HEATING OF POROUS SHEATHS

Gas blown through a porous sheath not only lowers the heat transfer coefficient and temperature recovery factor, but also provides direct cooling of the sheath.

This method is widely used for individual aircraft parts during flight acceleration, in the nozzles of rocket boosters, in the nozzles of intermittent rocket engines, for the walls of wind tunnels and experimental sections for short-duration tests.

Temperature distribution across the thickness of the porous wall is investigated in [47-50]. In many cases, however, we must know the transient temperature distribution to compute the coolant rate and thermal stresses /48
within the porous material during a short time interval. While the coolant rate may be excessive if determined from solutions for a uniform temperature field, it can be reasonable if computed from solutions for nonuniform temperatures.

The problem of calculating the nonuniform temperature of a one-dimensional porous-cooled wall, the surface of which is subjected to a steady heat flow on the side of the coolant flow, was first presented without conclusions in [51]. The authors correlated the temperature on the surface of the coolant as Fourier functions for different values of coolant mass flow rates. Reference [52] presents relations of surface temperature at the inlet and outlet of the coolant and in the center plane over a wider range of Fo numbers and coolant rates than in [51]. In [53] this problem was solved approximately by the method of finite differences. The temperature values obtained here are somewhat higher than in the exact solution [51, 52].

In [54] we find a solution for the temperature of a porous plate when the coefficient of convective heat transfer from hot gases to the wall surface is constant. Determination of the heat transfer coefficient is a separate problem which is discussed in [55-58] and elsewhere.

6-1. Mathematical Formulation of the Problem

Figure 13 shows the diagram of the problem under investigation. Given an infinite plate of finite thickness l and uniform porosity, the coolant flows in at $x = 0$ and flows out at $x = l$ with a constant flow rate G_c; the thermophysical parameters of the wall and the coolant are taken to be constant.

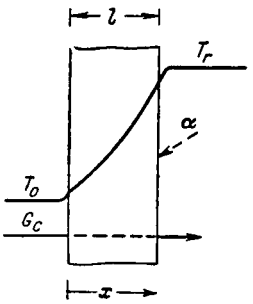

Figure 13.

Assume that the ratio of the wetted inner surface to a volume unit of wall material is quite high, and that the internal coefficient of heat transfer from the coolant to the porous material is infinite. Then at every point of the plate the temperature of the coolant and the solid material are identical. /49

Bernicker [59] studied theoretically and experimentally the dependence of the internal heat transfer coefficient on wall porosity and on the Peclet number of the coolant. For a given porosity and internal heat transfer coefficient the difference between wall temperature and coolant temperature decreases with increasing Peclet numbers.

Also assume that, in comparison with the thermal conductivity of the wall, the thermal conductibility of the coolant is so small that it can be neglected.

The amount of heat transferred to the coolant per unit of time and unit of volume is

$$w = -G_c c_c \frac{\partial T(x, \tau)}{\partial x}. \qquad (6\text{-}1\text{-}1)$$

We substitute (6-1-1) into (1-2) and get the following partial differential equation:

$$\frac{\partial T(x, \tau)}{\partial \tau} = a \frac{\partial^2 T(x, \tau)}{\partial x^2} - \frac{G_c c_c}{\gamma_w c_w} \frac{\partial T(x, \tau)}{\partial x}. \qquad (6\text{-}1\text{-}2)$$

The initial temperatures of the coolant and of the wall coincide over the entire thickness of the plate:

$$T(x, 0) = T_0. \qquad (6\text{-}1\text{-}3)$$

The boundary condition for $x = 0$ is

$$\lambda \frac{\partial T(0, \tau)}{\partial x} = G_c c_c \{T(0, \tau) - T_0\}. \qquad (6\text{-}1\text{-}4)$$

Initially, heat begins to penetrate through the surface $x = l$ under conditions governed by one of the laws (1-3), (1-4) or (1-5).

In dimensionless form Eqs. (6-1-2), (6-1-3) and (6-1-4) can be written /50

$$\frac{\partial\theta(\xi, \mathrm{Fo})}{\partial \mathrm{Fo}} = \frac{\partial^2\theta(\xi, \mathrm{Fo})}{\partial\xi^2} - g\frac{\partial\theta(\xi, \mathrm{Fo})}{\partial\xi}; \tag{6-1-5}$$

$$\theta(\xi, 0) = 0; \tag{6-1-6}$$

$$\frac{\partial\theta(0, \mathrm{Fo})}{\partial\xi} = g\theta(0, \mathrm{Fo}). \tag{6-1-7}$$

Thermal stresses σ_y and σ_z are determined by Eq. (5-1-7).

6-2. Surface Temperature at the Coolant Outlet Is Constant

The problem is solved by means of integral Laplace transformation (2-1). If we apply it to (6-1-5) noting (6-1-6), we get the following second-order differential equation with constant coefficients with respect to the transform

$$\frac{d^2\bar{\theta}(\xi, s)}{d\xi^2} - g\frac{d\bar{\theta}(\xi, s)}{d\xi} - s\bar{\theta}(\xi, s) = 0. \tag{6-2-1}$$

Its general solution is

$$\bar{\theta}(\xi, s) = \exp\left(\frac{g}{2}\xi\right)\{C_1 \operatorname{sh}\xi\sqrt{s + (g/2)^2} + C_2 \operatorname{sh}\xi\sqrt{s + (g/2)^2}\}. \tag{6-2-2}$$

Constants C_1 and C_2 are determined from boundary conditions (6-1-7) and (4-2-3) whose transform is

$$\frac{d\bar{\theta}(0, s)}{d\xi} = g\bar{\theta}(0, s); \tag{6-2-3}$$

$$\bar{\theta}(1, s) = \frac{1}{s}. \tag{6-2-4}$$

After determining C_1 and C_2, and substituting them into (6-2-2) we get

$$\theta(\xi, s) = \exp\left[\frac{g}{2}(\xi - 1)\right] \times \frac{\operatorname{ch}\xi\sqrt{s + (g/2)^2} + \dfrac{g}{2\sqrt{s + (g/2)^2}}\operatorname{sh}\xi\sqrt{s + (g/2)^2}}{s\left\{\operatorname{ch}\sqrt{s + (g/2)^2} + \dfrac{g}{2\sqrt{s + (g/2)^2}}\operatorname{sh}\sqrt{s + (g/2)^2}\right\}}. \tag{6-2-5}$$

The ratio of transcendental functions in (6-2-5) can be reduced to a ratio of two power series converging with respect to s whose exponents are natural numbers. In this case, $\psi(s)$ does not contain a constant. Consequently, the conditions of applying Theorem (2-4) are fulfilled. As we apply that theorem we get /51

$$\theta(\xi, \mathrm{Fo}) = \exp[g(\xi-1)] + \exp\left[\frac{g}{2}(\xi-1)\right]\times$$

$$\times\sum_{n=1}^{\infty}\frac{A_n}{1+\left(\frac{g}{2\mu_n}\right)^2}\left\{\frac{2\mu_n}{g}\cos\mu_n\xi + \sin\mu_n\xi\right\}\times$$

$$\times\exp\left\{-\left[\mu_n^2+\left(\frac{g}{2}\right)^2\right]\mathrm{Fo}\right\}, \qquad (6\text{-}2\text{-}6)$$

where μ_n are roots of the characteristic equation

$$\tan\mu = -\frac{\mu}{g/2} \qquad (6\text{-}2\text{-}7)$$

and

$$A_n = \frac{2\cos\mu_n}{\mu_n - \sin\mu_n\cos\mu_n}. \qquad (6\text{-}2\text{-}8)$$

The roots of Eq. (6-2-7) are tabulated in [3], where Eq. (6-2-8) is also tabulated, but the tables contain a typographical error—the signs must be inverted.

To obtain an approximate solution suitable for small values of Fo, Eq. (6-2-5) can be written

$$\frac{\theta(\xi, s)}{\exp[g/2(\xi-1)]} = \frac{1}{s}\left\{\exp[-(1-\xi)\sqrt{s+(g/2)^2}] + \right.$$

$$\left. + \frac{1-\frac{g}{2\sqrt{s+(g/2)^2}}}{1+\frac{g}{2\sqrt{s+(g/2)^2}}}\exp[-(1+\xi)\sqrt{s+(g/2)^2}]\right\}\times$$

$$\times\left[\frac{1}{1+\frac{1-\frac{g}{2\sqrt{s+(g/2)^2}}}{1+\frac{g}{2\sqrt{s+(g/2)^2}}}\exp[-2\sqrt{s+(g/2)^2}]}\right] \qquad (6\text{-}2\text{-}9)$$

Considering that for $\mathrm{Fo}\to 0$ $s\to\infty$, Eq. (6-2-9) can be reduced to /52

$$\frac{\bar{\theta}(\xi, s)}{\exp\left[\frac{g}{2}(\xi-1)\right]} = \frac{1}{s}\exp[-(1-\xi)\sqrt{s+(g/2)^2}] +$$

$$+\frac{1}{s}\exp[-(1+\xi)\sqrt{s+(g/2)^2}] -$$

$$-\frac{g}{s\sqrt{s+(g/2)^2}}\exp[-(1+\xi)\sqrt{s+(g/2)^2}]. \qquad (6\text{-}2\text{-}10)$$

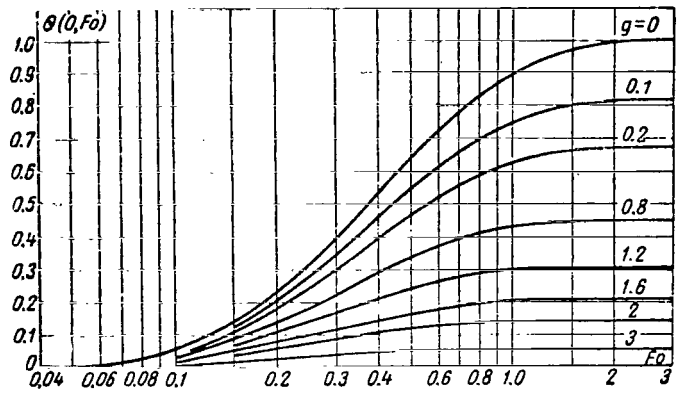

Figure 14.

The inversion can be found with the aid of the tables

$$\theta(\xi, \mathrm{Fo}) = \frac{1}{2}\exp[-g(1-\xi)]\times$$

$$\times\operatorname{erfc}\left[\frac{1-\xi}{2\sqrt{\mathrm{Fo}}} - \frac{g}{2}\sqrt{\mathrm{Fo}}\right] + \frac{1}{2}\operatorname{erfc}\left[\frac{1-\xi}{2\sqrt{\mathrm{Fo}}} + \frac{g}{2}\sqrt{\mathrm{Fo}}\right] -$$

$$-\frac{1}{2}\exp(-g)\operatorname{erfc}\left[\frac{1+\xi}{2\sqrt{\mathrm{Fo}}} - \frac{g}{2}\sqrt{\mathrm{Fo}}\right] +$$

$$+\frac{3}{2}\exp(g\xi)\operatorname{erfc}\left[\frac{1+\xi}{2\sqrt{\mathrm{Fo}}} + \frac{g}{2}\sqrt{\mathrm{Fo}}\right]. \qquad (6\text{-}2\text{-}11)$$

Figure 14 shows the dimensionless temperature of the inner surface of a porous plate as a function of Fo for different values of the coolant mass flow rate g.

6-3. Surface at Coolant Outlet Is Heated by a Steady Heat Flow /53

Equation (6-2-2) gives the temperature field of a porous plate. Constants C_1 and C_2 are determined from boundary conditions (6-1-17) and (5-1-5) whose transform is

$$\frac{d\bar{\theta}(0, s)}{d\xi} = g\bar{\theta}(0, s); \qquad (6\text{-}3\text{-}1)$$

$$-\frac{d\bar{\theta}(1, s)}{d\xi} + \frac{\mathrm{Ki}}{s} = 0. \qquad (6\text{-}3\text{-}2)$$

After determining C_1 and C_2 and substituting them into (6-2-2) we get

$$\frac{\bar{\theta}(\xi, s)}{\mathrm{Ki}} = \exp\left[\frac{g}{2}(\xi - 1)\right]\times$$

$$\times \frac{\operatorname{ch}\xi\sqrt{s+(g/2)^2}+\dfrac{g}{2\sqrt{s+(g/2)^2}}\times}{s\left\{g\operatorname{ch}\sqrt{s+(g/2)^2}+\left[1+\left(\dfrac{g}{2\sqrt{s+(g,2)^2}}\right)^2\right]\times\right.}$$

$$\left.\frac{\times \operatorname{sh}\xi\sqrt{s+(g/2)^2}}{\times\sqrt{s+(g/2)^2}\operatorname{sh}\sqrt{s+(g,2)^2}}\right\}=\frac{\Phi(s)}{\psi(s)}. \qquad (6\text{-}3\text{-}3)$$

Φ (s) and ψ (s) are generalized polynomials with respect to s, and ψ (s) contains no constant, so that the condition for applying Theorem (2-4) is fulfilled. With the aid of that theorem we get for the temperature field

$$\frac{\theta(\xi,\ \mathrm{Fo})}{\mathrm{Ki}}=\frac{1}{g}\exp[g(\xi-1)]-$$

$$-\exp\left[\frac{g}{2}(\xi-1)\right]\frac{2}{g}\sum_{n=1}^{\infty}\frac{1}{1+\left(\dfrac{g}{2\mu_n}\right)^2}\times$$

$$\times A_n\left\{\cos\mu_n\xi+\frac{g}{2\mu_n}\sin\mu_n\xi\right\}\exp\left\{-\left[\mu_n^2+\left(\frac{g}{2}\right)^2\right]\mathrm{Fo}\right\}, \qquad (6\text{-}3\text{-}4)$$

where μ_n are roots of the characteristic equation

$$\operatorname{cotan}\mu=\frac{\mu}{g}-\frac{g}{4\mu} \qquad (6\text{-}3\text{-}5)$$

and /54

$$A_n=\left\{\frac{\sin\mu_n\cos\mu_n+\mu_n}{\sin\mu_n}+\frac{g/2}{\mu_n}\sin\mu_n\right\}^{-1}. \qquad (6\text{-}3\text{-}6)$$

If in Eqs. (5-4-4) and (5-4-5) we set $\mathrm{Bi}_0=\mathrm{Bi}_1=g/2$, they become Eqs. (6-3-5) and (6-3-6). It is therefore superfluous to tabulate the latter since the results can be taken directly from Appendix III. The tables contain the first six roots of this equation for values of g from 0.002 to 200.

6-4. Surface at Coolant Outlet Is Heated According to Newton's Law

Equation (6-2-2) gives the temperature field of a porous plate. Constants C_1 and C_2 are determined from boundary conditions (6-1-7) and (4-5-1) whose transform is

$$\frac{d\bar{\theta}(0,\ s)}{d\xi}=g\bar{\theta}(0,\ s), \qquad (6\text{-}4\text{-}1)$$

$$\frac{d\bar{\theta}(1,\ s)}{d\xi}+\mathrm{Bi}\{\bar{\theta}(1,\ s)-\bar{\theta}_r(s)\}=0. \qquad (6\text{-}4\text{-}2)$$

After determining C_1 and C_2, and substituting them into (6-2-2) we get

$$\overline{\theta}(\xi, s) = \exp\left\{\frac{g}{2}(\xi - 1)\right\} \times$$

$$\times \frac{\operatorname{ch}\xi\sqrt{s+(g/2)^2} + \frac{g}{2\sqrt{s+(g/2)^2}} \times \operatorname{sh}\xi\sqrt{s+(g/2)^2}}{s\left\{\left(1+\frac{g}{\mathrm{Bi}}\right)\operatorname{ch}\sqrt{s+(g/2)^2} + \left[\frac{\sqrt{s+(g/2)^2}}{\mathrm{Bi}} + \frac{g}{2\,\mathrm{Bi}} + \frac{g}{2\sqrt{s+(g/2)^2}}\right]\operatorname{sh}\sqrt{s+(g/2)^2}\right\}} = \frac{\Phi(s)}{\psi(s)}. \quad (6\text{-}4\text{-}3)$$

$\Phi(s)$ and $\psi(s)$ are generalized polynomials, and the condition for applying theorem (2-4) are fulfilled. We apply that theorem for the temperature field and get

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$$\theta(\xi, \mathrm{Fo}) = \frac{\exp[g(\xi-1)]}{1+\frac{g}{\mathrm{Bi}}} - \frac{\exp\left[\frac{g}{2}(\xi-1)\right]}{1+\frac{g}{2\,\mathrm{Bi}}} \times$$

$$\times \sum_{n=1}^{\infty} \frac{1}{1+\left(\frac{g}{2\mu_n}\right)^2} A_n \left\{\cos\mu_n\xi + \frac{g}{2\mu_n}\sin\mu_n\xi\right\} \times$$

$$\times \exp\left\{-\left[\mu_n^2 + \left(\frac{g}{2}\right)^2\right]\mathrm{Fo}\right\}, \quad (6\text{-}4\text{-}4)$$

where μ_n are roots of the characteristic equation

$$\operatorname{cotan}\mu = \frac{\mu^2 - \frac{g}{2}\left(\frac{g}{2} + \mathrm{Bi}\right)}{\mu(g + \mathrm{Bi})} \quad (6\text{-}4\text{-}5)$$

and

$$A_n = \left\{\left(1 + \frac{\frac{g}{2}}{\mathrm{Bi} + \frac{g}{2}}\right)\frac{\sin\mu_n\cos\mu_n + \mu_n}{2\sin\mu_n} + \frac{\frac{g}{2}}{\mu_n}\sin\mu_n\right\}^{-1} \quad (6\text{-}4\text{-}6)$$

If in Eqs. (5-4-4) and (5-4-5) we set $\mathrm{Bi}_0 = g/2$ and $\mathrm{Bi}_1 = \mathrm{Bi} + g/2$, they become Eqs. (6-4-5) and (6-4-6). Tabulation of the latter is therefore superfluous since the results can be taken directly from Appendix III. The tables contain the first six roots of that equation for a wide range of g and Bi values.

If recovery temperature is a known function of time θ_r (Fo) = F (Fo), the temperature field can readily be determined by means of Duhamel's theorem

$$\theta(\xi, \mathrm{Fo}) = F(0)\left\{\frac{\exp[g(\xi-1)]}{1+\frac{g}{\mathrm{Bi}}} - \frac{\exp\left[\frac{g}{2}(\xi-1)\right]}{1+\frac{g}{2\,\mathrm{Bi}}}\right. \times$$

$$\times \sum_{n=1}^{\infty} \frac{1}{1+\left(\frac{g}{2\mu_n}\right)^2} A_n \left\{\cos \mu_n \xi + \frac{g}{2\mu_n} \sin \mu_n \xi\right\} \times$$

$$\times \exp\left\{-\left[\mu_n^2 + \left(\frac{g}{2}\right)^2\right] \mathrm{Fo}\right\} +$$

$$+ \frac{\exp[g(\xi-1)]}{1+\frac{g}{\mathrm{Bi}}} \int_0^{\mathrm{Fo}} F'(\mathrm{Fo}-\mathrm{Fo}^*)\, d\,\mathrm{Fo}^* -$$

$$\left. - \frac{\exp\left[\frac{g}{2}(\xi-1)\right]}{1+\frac{g}{2\,\mathrm{Bi}}} \sum_{n=1}^{\infty} \frac{1}{1+\left(\frac{g}{2\mu_n}\right)^2} A_n \times \right.$$

$$\times \left\{\cos \mu_n \xi + \frac{g}{2\mu_n} \sin \mu_n \xi\right\} \int_0^{\mathrm{Fo}} F'(\mathrm{Fo}-\mathrm{Fo}^*) \times$$

$$\times \exp\left\{-\left[\mu_n^2 + \left(\frac{g}{2}\right)^2\right] \mathrm{Fo}^*\right\} d\,\mathrm{Fo}^* \qquad (6\text{-}4\text{-}7)$$

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where μ_n and A_n are determined respectively from Eqs. (6-4-5) and (6-4-6).

A solution can be found readily if we use Theorem (2-4) for any of the laws of recovery temperature variation discussed in the preceding sections. This solution, however, is relatively useless, hence it is not applied in engineering practice. Should the reader need such solutions, he can get them following the method used here. In all these cases the roots of the characteristic equation and of the initial temperatures A_n are determined from Eqs. (6-4-5) and (6-4-6) respectively.

REFERENCES

1. Fourier, J. Théorie Analytique de la Chaleur. Paris, 1822.
2. Sakharov, G.I., Andreyevskiy, V.V. and Bukreyev, V.Z. Heating of Bodies at High Supersonic Velocities (Nagrev tel pri dvizhenii s bol'shimi sverkhzvukovymi skorostyami). Oborongiz, 1961.
3. Lykov, A.V. Theory of Heat Conduction (Teoriya teploprovodnosti). Gostekhizdat, 1952.
4. Karslou, G. and Yeger, D. Heat Conduction of Solids (Teploprovodnost' tverdykh tel). Nauka Press, 1964.

5. Mikheyev, M.A. Principles of Heat Transfer (Osnovy teploperedachi). Gosenergoizdat, 1956.
6. Laplace, P.S. Sur les suites, Mém. Acad. Sci., Oeuvres complètes, Vol. 10, pp. 1-89, 1779.
7. Ditkin, V.A. and Prudnikov, A.P. Handbook on Operational Calculus (Spravochnik po operatsionnomu ischisleniyu). Vysshaya Shkola Publishers, 1965.
8. Geytvud, B.Ye. Thermal Stresses (Temperaturnyye napryazheniya). IL, 1959.
9. Gröber, H. Die Grundgesetze der Wärmeleitung und des Wärmeüberganges. Berlin, 1921.
10. Gröber, H. Z. VDI, Vol. 69, p. 705, 1925.
11. Bachmann, H. Tafeln für die Abkühlungsvorgänge einfacher Korpern. Berlin, 1938.
12. Heissler, M.P. Trans. ASME, Vol. 69, pp. 227-236, 1947.
13. Ivantsov, G.P. Heating of Metals (Nagrev metallov). Metallurgizdat, 1948.
14. Boelter, L., Johnson, H. and others Heat Transfer Notes. University of California Press, Berkeley, Calif., 1948.
15. Grigull,U. Temperature Fields in Simple Bodies (Temperaturnyye polya v prostykh telakh). In: "Teplo- i massoperenos," Vol. 5. Gosenergoizdat, 1963.
16. Grigull, U. Temperaturausgleich in einfachen Körpern. Springer-Verlag, 1964.
17. Heissler, M.P. Transient Thermal Stresses on Slabs and Circular Pressure Vessels, J. Appl. Mech., Vol. 20, p. 261, 1953.
18. Przemieniecki, J. Transient Temperatures and Stresses in Plates Attained in High Speed Flight, JAS, Vol. 22, p. 345, 1955.
19. Kaye, J. and Yeh, V.C.M. Design Charts for Transient Temperature Distribution Resulting from Aerodynamic Heating at Supersonic Speeds, J. of Aeronautical Science, Vol. 22, p. 751, 1955.
20. Shin Juan Chen Transient Temperature and Thermal Stresses in Skin of Hypersonic Vehicle with Variable Boundary Condition, Trans. of the ASME,Vol. 7, 1958.
21. Gorodov, A.N. Temperature of an Endless Cylinder in a Flow with Pulsating Velocity and Temperatures, "Prikladnaya Matematika i Mekhanika," Vol. 19, No. 2, 1955.
22. Kaganov, M.A. and Rozenshtok, Yu. L. Temperature of Bodies in a Medium with Pulsating Heat Transfer and Temperature, Zhurn. Prikl. Mekh. i Tekhn. Fiz., No. 3, 1962.
23. Barrer, M., Zhomott A., Bebek B.F. and Vandenkerkkhove, Zh. Rocket Engines (Raketnyye Dvigateli). Oborongiz, 1962.
24. Hemp, W.S. Aero. Quart., Vol. 7, No. 3, pp. 184-192, 1956.
25. Biot, M.A. Cornell Aero. Lab. Rep. SA-987-S-3, 1956.
26. Biot, M.A. J. Aero. Sci., Preprint, Vol. 661, 1957.
27. Tret'yachenko, G.N. Transient Thermal Stresses in Three-Layer Plates. In: Thermal Stresses in Construction Elements (Teplovyye Napryazheniya v Elementakh Konstruktsiy). UkrSSR Acad. Sci. Press, Kiev, No. 3, pp. 54-61, 1963.
28. Deriaz, P. La Protection Thermique des Chambres de Combustion de Fusées à Pondre, La Recherche Aéronautique, No. 37, p. 29, 1934.

29. Wells, W.S. and McLellan, C.H. One-Dimensional Heat Conduction Through the Skin of a Vehicle Upon Entering a Planetary Atmosphere at Constant Velocity and Entry Angle. NASA TN D-1476, 1962.
30. Mikhaylov, M.D. Heating of Twin-Layer Plates, Zhurn. Prikl. Mekh. i Tekhn. Fiz., No. 6, 1963.
31. Kornilov, A.A., Repkin, V.D. and Kurtukov, G.V. Investigation of Forced Cooling of Castings in Sand Molds. In: Interaction of Molds and Castings (Vzaimodeystviye Liteynoy Formy i Otlivki). USSR Acad. Sci. Press, 1962.
32. Grover, J.H. and Holter, W.H. Solution of Ten Transient Heat Conduction Equations for an Insulated, Infinite Metal Slab, Jet Propulsion, Vol. 27, No. 12, 1957.
33. Yasinskiy, F.G. Approximate Calculation of the Heating of a Metal Skin with External Insulating Layer. Izv. Vyssh. Ucheb. Zaved., Seriya "Aviatsionnaya Tekhnika," No. 2, 1963.
34. Figurovskiy, V.I. Heating of Twin-Layer Plates. Ibid., No. 2, 1960.
35. Kitchenside, A. J. of the Royal Aeronautical Soc., Vol. 62, No. 566, pp. 105-117, 1958.
36. Kobylyanskiy, A.A. Heating of Twin-Layer Infinite Plates. Ibid., No. 1, 1964.
37. Laning, J.H., Jr. and Battin, R.H. Random Processes in Automatic Control (Sluchaynyye Protsessy v Zadachakh Avtomaticheskogo Upravleniya). McGraw-Hill Book Company, New York, 1956.
38. The Heat Barrier (Review of Foreign Papers). Voprosy Raketnoy Tekhniki, No. 4, IL, 1955.
39. Mikhaylov, M.D. Nonsymmetric Heating of Infinite Plates. IFZh, No. 11, 1962.
40. Barnes, C. Physics. 1934.
41. Emeri. Temperature Distribution Behind a Heat Flow. Raketnaya Tekhnika i Kosmonavtika, No. 4, 1964.
42. Barrer, R. Phil. Mag., Vol. 28, p. 148, 1939.
43. Jost, W. Diffusion und Chemische Reaktionen in Festen Stoffen. Steinkopf, 1937.
44. Aksel'rud, G.A. Theory of Extraction by Diffusion from Porous Bodies (Teoriya Diffusionnogo Izvlecheniya Veshchestv iz Poristykh Tel). L'vov, 1959.
45. Rays, V. Diffusion of Admixtures in Oriented Crystal Growth. Trudy Inst. Inzh. Elektron. i Radioelektron., No. 3, 1964.
46. Glikman, B.F. Problem of Unsteady Heat Transfer Through a Plate. ZhTF, Vol. 22, No. 12, 1957.
47. Weinbaum, S. and Wheeler, H.L., Jr. Heat Transfer in Sweat-Cooled Metals, J. Appl. Phys., Vol. 20, pp. 113-122, January 1949.
48. Mayer, E. and Bartas, J.G. Transpiration Cooling in Porous Metal Walls, Jet Propulsion. Vol. 24, pp. 366-386, 1954.
49. Schnaider, P.J. Temperatures and Thermal Stresses in Transpiration Cooled Power-Producing Plates and Tubes, Jet Propulsion, Vol. 27, pp. 882-889.
50. Elsner, N. Wärmedurchgang durch Poröse Körper bei Gleichzeitigem Stoffdurchsatz, Wissenschaftliche Zeitschrift der Hochschule für Verkehrswesen, Dresden, Vol. 3, No. 2, 1955.
51. Manos, W.P. and Taylor, D.E. Transient Heating at an Exisimmetric Stagnation Point with Mass Addition, International Heat Transfer

Conference of ASME, IME, ICE, Boulder, Colo., New York, Pt. IV, pp. 731-736, 1961.
52. Mendelson, A.R. Transient Temperature of a Porous—Cooled Wall. AISS Journal, Vol. 1, 1963.
53. Gorton, C.W. and Spurlock, J.M. Transient Analysis of a Transpiration-Cooled Slab Exposed to a Constant Heat, Inst. Aerospace Sci., Paper FF-34, pp. 11-15, 1963.
54. Schneider, P.J. and Brogan, J.J. Temperature Response of a Transpiration—Cooled Plate, ABS Journal. Publication of the American Rocket Society, Vol. 32, pp. 233-236, 1962.
55. Low, G.M. The Compressible Boundary Layer with Fluid Injection. NACA TH 3404, Washington.
56. Eckert, E.R.G., Schneider, P.J., Hayday, A.A. and Larson, R.M. Mass-Transfer Cooling of a Laminar Air Boundary Layerbe Injection of a Light-Weight Foreign Gas, Jet Propulsion, Vol. 28, pp. 34-39, 1958.
57. Baron, J.R. The Binary-Mixture Boundary Layer Associated with Mass-Transfer Cooling at High Speeds, MIT Naval Supersonic Lab., T.R., 1956.
58. Ekkert, E.R. Dzh., Kheyden, A.A. and Minkovich, V.Zh. Heat Transfer, Recovery Temperature and Skin Resistance on a Plane Plate with Hydrogen Fed into the Laminar Boundary Layer. In: "Teplo- i Massoperenos," Vol. 3, pp. 65-78, 1963.
59. Bernicker, R.P. An Investigation of Porous Wall Cooling, ASME Paper No. 60-WA-233, 1960.
60. Mikhaylov, M.D. Calculating the Temperature of a Metal Wall Covered with a Heat-Resistant Layer. MEI Yearbook, Vol. 17, pp. 143-148, 1965.
61. Mikhailov, M.D. Temperature Distribution and Thermal Stresses in Cooled Skin of Flying Vehicle, ASME, 64-WA/HT-35.

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APPENDIX I

TABLE OF TRANSFORMS OF FUNCTIONS

	$f(s)=\int_0^\infty f(x)\,e^{-sx}dx$	$f(x)$
1	$\frac{1}{s}$	1
2	$\frac{1}{s^2}$	x
3	$s^{-3/2}$	$2\sqrt{\frac{x}{\pi}}$
4	$\frac{1}{\sqrt{s}}$	$\frac{1}{\sqrt{\pi x}}$
5	$\frac{1}{s-a}$	e^{ax}
6	$\frac{1}{s+a}$	e^{-ax}
7	$\frac{1}{s}e^{-k\sqrt{s}}\ (k\geqslant 0)$	$\operatorname{erfc}\frac{k}{2\sqrt{x}}$
8	$\frac{1}{s\sqrt{s}}e^{-k\sqrt{s}}\ (k\geqslant 0)$	$2\sqrt{\frac{x}{\pi}}\exp\left(-\frac{k^2}{4x}\right)-$ $-k\operatorname{erfc}\frac{k}{2\sqrt{x}}$
9	$\frac{be^{-k\sqrt{s}}}{s(b+\sqrt{s})}\ (k\geqslant 0)$	$\operatorname{erfc}\frac{k}{2\sqrt{x}}-e^{bk}e^{b^2x}\times$ $\times\operatorname{erfc}\left(b\sqrt{x}+\frac{k}{2\sqrt{x}}\right)$
10	$\frac{e^{-k\sqrt{s}}}{\sqrt{s}(b+\sqrt{s})}\ (k\geqslant 0)$	$\exp(bk+b^2x)\operatorname{erfc}\left(b\sqrt{x}+\frac{k}{2\sqrt{x}}\right)$
11	$\frac{1}{s\sqrt{s}\,(\sqrt{s}+b)}e^{-k\sqrt{s}}$	$\frac{2}{b}\sqrt{\frac{x}{\pi}}\exp\left(-\frac{k^2}{4x}\right)-$ $-\frac{1+bk}{b^2}\operatorname{erfc}\frac{k}{2\sqrt{x}}+\frac{1}{b^2}\exp(bk+$ $+b^2x)\operatorname{erfc}\left(\frac{k}{2\sqrt{x}}+b\sqrt{x}\right)$
12	$\frac{1}{(\sqrt{s})^{n+1}(\sqrt{s}+b)}\times$ $\times e^{-k\sqrt{s}}$	$\frac{1}{(-b)^n}\exp(bk+b^2x)\times$ $\times\operatorname{erfc}\left(\frac{k}{2\sqrt{x}}+b\sqrt{x}\right)-$ $-\frac{1}{(-b)^n}\sum_{m=0}^{n-1}(-2b\sqrt{x})^m\times$ $\times i^m\operatorname{erfc}\frac{k}{2\sqrt{x}}$

Appendix I (Continued)

	$f(s)=\int_0^\infty f(x)\,e^{-sx}dx$	$f(x)$
13	$\frac{1}{s}e^{-k\sqrt{s+b}}$	$\frac{1}{2}\left[e^{-k\sqrt{b}}\operatorname{erfc}\left(\frac{k}{2\sqrt{x}}-\sqrt{bx}\right)\right]+$ $+e^{k\sqrt{b}}\operatorname{erfc}\left(\frac{k}{2\sqrt{x}}+\sqrt{bx}\right)$
14	$\frac{1}{s\sqrt{s+2b}}e^{-k\sqrt{s+2b}}$	$\frac{1}{2\sqrt{2b}}\left[e^{-k\sqrt{2b}}\operatorname{erfc}\left(\frac{k}{2\sqrt{x}}-\right.\right.$ $\left.-\sqrt{2bx}\right)-e^{k\sqrt{2b}}\times$ $\left.\times\operatorname{erfc}\left(\frac{k}{2\sqrt{x}}+\sqrt{2bx}\right)\right]$

APPENDIX II

Tables of Roots of the Characteristic Equation

$$\tan\mu=\frac{\mathrm{Bi}\,K-\mu^2}{\mu(\mathrm{Bi}+K)}$$

and Initial Temperature Amplitudes

$$A_n=\left[\left(1-\frac{\mu_n^2}{\mathrm{Bi}\,K}\right)\frac{\sin\mu_n\cos\mu_n+\mu_n}{2\sin\mu_n}+\right.$$
$$\left.+\frac{\mu_n^2}{\mathrm{Bi}\,K}\cos\mu_n\right]^{-1}$$

$K = 0{,}001$

Bi	μ_1	μ_2	μ_3	μ_4	μ_5	μ_6
0,001	0,00100	1,57207	4,71281	7,85424	10,99575	14,13730
0,002	0,00141	1,57270	4,71302	7,85436	10,99581	14,13737
0,005	0,00223	1,57461	4,71366	7,85474	10,99611	14,13759
0,01	0,00314	1,57777	4,71472	7,85538	10,99657	14,13794
0,02	0,00442	1,58405	4,71681	7,85665	10,99748	14,13865
0,05	0,00690	1,60261	4,72319	7,86047	11,00021	14,14077
0,1	0,00953	1,63258	4,73372	7,86682	11,00478	14,14430
0,2	0,01290	1,68924	4,75464	7,87948	11,01382	14,15136
0,5	0,01825	1,83708	4,81604	7,91718	11,04091	14,17250
1,0	0,02235	2,02917	4,91338	7,97879	11,08562	14,20750
2,0	0,02581	2,28129	5,08717	8,09628	11,17279	14,27642
5,0	0,02886	2,65399	5,45152	8,39146	11,40871	14,46993
10,0	0,03015	2,86309	5,76072	8,70842	11,70276	14,73353
20,0	0,03086	2,99334	5,99225	9,00195	12,02511	15,06253
50,0	0,03131	3,08039	6,16075	9,24211	12,32477	15,40908
100,0	0,03146	3,11082	6,22121	9,33184	12,44266	15,55372

Note: Commas represent decimal points in this and the following tables.

Bi	A_1	$-A_2$	A_3	$-A_4$	A_5	$-A_6$
0,001	1,00000	0,00000	0,00000	0,00000	0,00000	0,00000
0,002	1,00000	0,00000	0,00000	0,00000	0,00000	0,00000
0,005	1,00000	0,00000	0,00000	0,00000	0,00000	0,00000
0,01	1,00000	0,00000	0,00000	0,00000	0,00000	0,00000
0,02	1,00001	0,00001	0,00000	0,00000	0,00000	0,00000
0,05	1,00002	0,00002	0,00000	0,00000	0,00000	0,00000
0,1	1,00004	0,00004	0,00000	0,00000	0,00000	0,00000
0,2	1,00007	0,00008	0,00000	0,00000	0,00000	0,00000
0,5	1,00013	0,00014	0,00001	0,00000	0,00000	0,00000
1,0	1,00017	0,00018	0,00002	0,00000	0,00000	0,00000
2,0	1,00018	0,00021	0,00003	0,00001	0,00000	0,00000
5,0	1,00018	0,00022	0,00004	0,00001	0,00001	0,00000
10,0	1,00018	0,00021	0,00005	0,00002	0,00001	0,00000
20,0	1,00017	0,00021	0,00005	0,00002	0,00001	0,00001
50,0	1,00017	0,00021	0,00005	0,00002	0,00001	0,00001
100,0	1,00017	0,00020	0,00005	0,00002	0,00001	0,00001

$K = 0,01$

Bi	μ_1	μ_2	μ_3	μ_4	μ_5	μ_6
0,001	0,00314	1,57777	4,71472	7,85538	10,99657	14,13794
0,002	0,00445	1,57840	4,71493	7,85551	10,99666	14,13801
0,005	0,00702	1,58029	4,71557	7,85589	10,99693	14,13822
0,01	0,00990	1,58343	4,71663	7,85653	10,99739	14,13858
0,02	0,01393	1,58967	4,71875	7,85780	10,99830	14,13928
0,05	0,02172	1,60810	4,72509	7,86161	11,00102	14,14140
0,1	0,03001	1,63788	4,73561	7,86796	11,00556	14,14494
0,2	0,04065	1,69420	4,75651	7,88062	11,01463	14,15200
0,5	0,05753	1,84137	4,81787	7,91830	11,04173	14,17313
1,0	0,07050	2,03287	4,91514	7,97990	11,08543	14,20813
2,0	0,08145	2,29252	5,08883	8,09736	11,17358	14,27704
5,0	0,09110	2,65692	5,45603	8,39218	11,40917	14,47054
10,0	0,09517	2,86597	5,76217	8,70940	11,70349	14,73413
20,0	0,09742	2,99622	5,99369	9,00291	12,02583	15,06310
50,0	0,09885	3,08325	6,16218	9,24306	12,32510	15,40965
100,0	0,09934	3,11368	6,22265	9,33279	12,44337	15,55429

Bi	A_1	$-A_2$	A_3	$-A_4$	A_5	$-A_6$
0,001	1,00000	0,00000	0,00000	0,00000	0,00000	0,00000
0,002	1,00001	0,00001	0,00000	0,00000	0,00000	0,00000
0,005	1,00002	0,00002	0,00000	0,00000	0,00000	0,00000
0,01	1,00005	0,00005	0,00000	0,00000	0,00000	0,00000
0,02	1,00010	0,00010	0,00000	0,00000	0,00000	0,00000
0,05	1,00023	0,00023	0,00001	0,00000	0,00000	0,00000
0,1	1,00042	0,00044	0,00002	0,00000	0,00000	0,00000
0,2	1,00073	0,00076	0,00004	0,00001	0,00000	0,00000
0,5	1,00128	0,00136	0,00009	0,00002	0,00001	0,00000
1,0	1,00165	0,00178	0,00016	0,00004	0,00001	0,00001
2,0	1,00181	0,00205	0,00026	0,00007	0,00003	0,00001
5,0	1,00184	0,00216	0,00042	0,00014	0,00006	0,00003
10,0	1,00178	0,00214	0,00048	0,00019	0,00009	0,00005
20,0	1,00173	0,00210	0,00051	0,00022	0,00011	0,00007
50,0	1,00169	0,00206	0,00051	0,00023	0,00012	0,00008
100,0	1,00168	0,00204	0,00051	0,00023	0,00013	0,00008

$K = 0,1$

Bi	μ_1	μ_2	μ_3	μ_4	μ_5	μ_6
0,001	0,00953	1,63258	4,73372	7,86682	11,00475	14,14430
0,002	0,01347	1,63317	4,73393	7,86695	11,00484	14,14437
0,005	0,02127	1,63494	4,73456	7,86733	11,00511	14,14458
0,01	0,03001	1,63788	4,73561	7,86796	11,00556	14,14494
0,02	0,04226	1,64372	4,73771	7,86923	11,00647	14,14565
0,05	0,06593	1,66102	4,74400	7,87303	11,00919	14,14776
0,1	0,09127	1,68907	4,75445	7,87936	11,01373	14,15129
0,2	0,12396	1,74241	4,77519	7,89199	11,02278	14,15835
0,5	0,17642	1,88334	4,83609	7,92956	11,04984	14,17946
1,0	0,21731	2,06926	4,93268	7,99099	11,09447	14,21443
2,0	0,25215	2,32433	5,10531	8,10815	11,18151	14,28328
5,0	0,28305	2,68586	5,47110	8,40265	11,41711	14,47663
10,0	0,29610	2,89439	5,77666	8,71916	11,71087	14,74004
20,0	0,30331	3,02455	6,00800	9,01250	12,03304	15,06889
50,0	0,30789	3,11157	6,17647	9,25260	12,33265	15,41538
100,0	0,30946	3,14200	6,23693	9,34233	12,45053	15,56002

Bi	A_1	$-A_2$	A_3	$-A_4$	A_5	$-A_6$
0,001	1,00001	0,00001	0,00000	0,00000	0,00000	0,00000
0,002	1,00008	0,00009	0,00000	0,00000	0,00000	0,00000
0,005	1,00021	0,00022	0,00001	0,00000	0,00000	0,00000
0,01	1,00042	0,00044	0,00002	0,00000	0,00000	0,00000
0,02	1,00083	0,00086	0,00004	0,00001	0,00000	0,00000
0,05	1,00199	0,00206	0,00007	0,00002	0,00001	0,00000
0,1	1,00371	0,00387	0,00018	0,00004	0,00001	0,00001
0,2	1,00653	0,00683	0,00036	0,00008	0,00003	0,00001

0,5	1,01175	0,01246	0,00086	0,00020	0,00007	0,00003
1,0	1,01546	0,01674	0,00156	0,00038	0,00014	0,00007
2,0	1,01750	0,01959	0,00261	0,00071	0,00028	0,00013
5,0	1,01773	0,02088	0,00412	0,00137	0,00060	0,00030
10,0	1,01722	0,02076	0,00481	0,00187	0,00091	0,00050
20,0	1,01676	0,02039	0,00506	0,00215	0,00114	0,00068
50,0	1,01638	0,02000	0,00509	0,00225	0,00125	0,00079
100,0	1,01624	0,01985	0,00507	0,00226	0,00127	0,00081

$K = 0,2$

Bi	μ_1	μ_2	μ_3	μ_4	μ_5	μ_6
0,001	0,01290	1,68924	4,75464	7,87948	11,01382	14,15136
0,002	0,01824	1,68979	4,75485	7,87961	11,01391	14,15144
0,005	0,02881	1,69142	4,75547	7,87999	11,01418	14,15165
0,01	0,04065	1,69420	4,75651	7,88062	11,01463	14,15200
0,02	0,05725	1,69969	4,75860	7,88189	11,01554	14,15271
0,05	0,08942	1,71596	4,76483	7,88568	11,01826	14,15482
0,1	0,12396	1,74241	4,77519	7,89199	11,02278	14,15835
0,2	0,16880	1,79297	4,79575	7,90457	11,03182	14,16540
0,5	0,24155	1,92792	4,85615	7,94203	11,05883	14,18649
1,0	0,29900	2,10827	4,95201	8,00327	11,10340	14,22143
2,0	0,34849	2,35868	5,12357	8,12010	11,19030	14,29021
5,0	0,39269	2,71726	5,48774	8,41393	11,42558	14,48338
10,0	0,41139	2,92527	5,79266	8,72099	11,71905	14,74661
20,0	0,42174	3,05536	6,02382	9,02312	12,04105	15,07532
50,0	0,42830	3,14239	6,19225	9,26318	12,34059	15,42175
100,0	0,43055	3,17283	6,25271	9,35290	12,45847	15,56638

Bi	A_1	$-A_2$	A_3	$-A_4$	A_5	$-A_6$
0,001	1,00007	0,00008	0,00000	0,00000	0,00000	0,00000
0,002	1,00015	0,00015	0,00001	0,00000	0,00000	0,00000
0,005	1,00037	0,00038	0,00002	0,00000	0,00000	0,00000
0,01	1,00073	0,00076	0,00004	0,00001	0,00000	0,00000
0,02	1,00144	0,00150	0,00007	0,00002	0,00001	0,00000
0,05	1,00347	0,00363	0,00018	0,00004	0,00001	0,00001
0,1	1,00653	0,00683	0,00036	0,00008	0,00003	0,00001
0,2	1,01162	0,01221	0,00071	0,00016	0,00006	0,00003
0,5	1,02139	0,02279	0,00169	0,00039	0,00015	0,00007
1,0	1,02874	0,03126	0,00308	0,00076	0,00029	0,00014
2,0	1,03309	0,03722	0,00516	0,00141	0,00055	0,00027
5,0	1,03398	0,04018	0,00815	0,00274	0,00119	0,00061
10,0	1,03314	0,04013	0,00954	0,00373	0,00181	0,00100
20,0	1,03231	0,03949	0,01003	0,00429	0,00228	0,00136
50,0	1,03163	0,03880	0,01010	0,00448	0,00250	0,00158
100,0	1,03137	0,03849	0,01005	0,00450	0,00253	0,00161

$K = 0,4$

Bi	μ_1	μ_2	μ_3	μ_4	μ_5	μ_6
0,001	0,01690	1,79108	4,79581	7,90467	11,03190	14,16546
0,002	0,02389	1,79158	4,79602	7,90479	11,03200	14,16553
0,005	0,03773	1,79307	4,79663	7,90517	11,03226	14,16574
0,01	0,05326	1,79556	4,79766	7,90580	11,03272	14,16610
0,02	0,07504	1,80051	4,79970	7,90703	11,03362	14,16680
0,05	0,11756	1,81523	4,80583	7,91082	11,03633	14,16891
0,1	0,16306	1,83926	4,81602	7,91709	11,04081	14,17243
0,2	0,22290	1,88552	4,83624	7,92960	11,04985	14,17947
0,5	0,32171	2,01086	4,89569	7,96682	11,07677	14,20052
1,0	0,40157	2,18187	4,99015	8,02770	11,12120	14,23539
2,0	0,47170	2,42415	5,13956	8,14388	11,20783	14,30404
5,0	0,53520	2,77756	5,52066	8,43637	11,44218	14,49687
10,0	0,56222	2,98176	5,82435	8,75154	11,73537	14,75973
20,0	0,57718	3,11481	6,05516	9,04428	12,05702	15,08815
50,0	0,58668	3,20192	6,22354	9,28424	12,35645	15,43446
100,0	0,58994	3,23240	6,28400	9,37396	12,47432	15,57908

Bi	A_1	$-A_2$	A_3	$-A_4$	A_5	$-A_6$
0,001	1,00012	0,00012	0,00001	0,00000	0,00000	0,00000
0,002	1,00023	0,00024	0,00001	0,00000	0,00000	0,00000
0,005	1,00058	0,00060	0,00004	0,00001	0,00000	0,00000
0,01	1,00114	0,00120	0,00007	0,00002	0,00001	0,00000
0,02	1,00226	0,00238	0,00014	0,00003	0,00001	0,00001
0,05	1,00548	0,00577	0,00035	0,00008	0,00003	0,00001
0,1	1,01040	0,01098	0,00070	0,00016	0,00006	0,00003
0,2	1,01882	0,01996	0,00137	0,00032	0,00012	0,00006
0,5	1,03596	0,03864	0,00326	0,00078	0,00029	0,00014
1,0	1,05002	0,05488	0,00597	0,00150	0,00057	0,00027
2,0	1,05938	0,06737	0,01002	0,00278	0,00110	0,00054
5,0	1,06244	0,07454	0,01593	0,00541	0,00236	0,00121
10,0	1,06141	0,07508	0,01871	0,00739	0,00360	0,00199
20,0	1,06010	0,07418	0,01972	0,00851	0,00453	0,00271
50,0	1,05897	0,07301	0,01986	0,00890	0,00498	0,00314
100,0	1,05852	0,07240	0,01978	0,00893	0,00504	0,00322

$K = 0,6$

Bi	μ_1	μ_2	μ_3	μ_4	μ_5	μ_6
0,001	0,01936	1,88022	4,83603	7,92963	11,04971	14,17952
0,002	0,02737	1,88068	4,83624	7,92975	11,05000	14,17959
0,005	0,04323	1,88206	4,83684	7,93013	11,05027	14,17980
0,01	0,06103	1,88436	4,83785	7,93075	11,05072	14,18015
0,02	0,08603	1,88894	4,83986	7,93200	11,05162	14,18085
0,05	0,13458	1,90256	4,84590	7,93575	11,05432	14,18297
0,1	0,18741	1,92487	4,85592	7,94198	11,05881	14,18648
0,2	0,25691	1,96800	4,87582	7,95441	11,06780	14,19350

Bi	μ_1	μ_2	μ_3	μ_4	μ_5	μ_6
0,5	0,37319	2,08610	4,93438	7,99141	11,09463	14,21451
1,0	0,46893	2,24970	5,02751	8,05192	11,13892	14,24931
2,0	0,55443	2,48530	5,19488	8,16746	11,22529	14,31783
5,0	0,63285	2,83447	5,55306	8,45865	11,45931	14,51033
10,0	0,66644	3,04116	5,85556	8,77294	11,75162	14,77282
20,0	0,68506	3,17132	6,08605	9,06530	12,07293	15,10095
50,0	0,69689	3,25860	6,25438	9,30517	12,37225	15,44714
100,0	0,70095	3,28915	6,31485	9,39488	12,49011	15,59175

Bi	A_1	$-A_2$	A_3	$-A_4$	A_5	$-A_6$
0,001	1,00014	0,00015	0,00001	0,00000	0,00000	0,00000
0,002	1,00028	0,00030	0,00002	0,00000	0,00000	0,00000
0,005	1,00070	0,00074	0,00005	0,00001	0,00000	0,00000
0,01	1,00139	0,00148	0,00010	0,00002	0,00001	0,00000
0,02	1,00276	0,00293	0,00020	0,00005	0,00002	0,00001
0,05	1,00671	0,00713	0,00051	0,00012	0,00004	0,00002
0,1	1,01282	0,01366	0,00101	0,00024	0,00009	0,00004
0,2	1,02348	0,02512	0,00199	0,00047	0,00018	0,00008
0,5	1,04610	0,04997	0,00472	0,00115	0,00043	0,00021
1,0	1,06592	0,07294	0,00866	0,00222	0,00085	0,00041
2,0	1,08029	0,09190	0,01461	0,00411	0,00154	0,00080
5,0	1,08528	0,10395	0,02335	0,00803	0,00352	0,00181
10,0	1,08550	0,10554	0,02752	0,01099	0,00537	0,00298
20,0	1,08398	0,10466	0,02905	0,01265	0,00676	0,00406
50,0	1,08257	0,10321	0,02928	0,01325	0,00743	0,00470
100,0	1,08200	0,10253	0,02917	0,01329	0,00752	0,00481

$K = 0,8$

Bi	μ_1	μ_2	μ_3	μ_4	μ_5	μ_6
0,001	0,02108	1,95901	4,87524	7,95434	11,06782	14,19354
0,002	0,02980	1,95944	4,87544	7,95447	11,06791	14,19361
0,005	0,04707	1,96074	4,87603	7,95484	11,06817	14,19382
0,01	0,06646	1,96290	4,87703	7,95546	11,06862	14,19417
0,02	0,09370	1,96720	4,87901	7,95670	11,06952	14,19487
0,05	0,14680	1,98002	4,88495	7,96042	11,07221	14,19697
0,1	0,20451	2,00105	4,89482	7,96662	11,07670	14,20048
0,2	0,28094	2,04185	4,91443	7,97837	11,08565	14,20749
0,5	0,41012	2,15440	4,97214	8,01575	11,11240	14,22845
1,0	0,51809	2,31212	5,06403	8,07592	11,15655	14,26319
2,0	0,61593	2,54225	5,22947	8,19083	11,24266	14,33158
5,0	0,70677	2,88803	5,58486	8,48075	11,47606	14,52374
10,0	0,74592	3,09448	5,88625	8,79417	11,76781	14,78587
20,0	0,76766	3,22489	6,11645	9,08617	12,08877	15,11371
50,0	0,78148	3,31242	6,28476	9,32595	12,38800	15,45979
100,0	0,78622	3,34306	6,34523	9,41566	12,50584	15,60439

Bi	A_1	$-A_2$	A_3	$-A_4$	A_5	$-A_6$
0,001	1,00016	0,00017	0,00001	0,00000	0,00000	0,00000
0,002	1,00031	0,00033	0,00003	0,00001	0,00000	0,00000
0,005	1,00078	0,00083	0,00007	0,00002	0,00001	0,00000
0,01	1,00155	0,00166	0,00013	0,00003	0,00001	0,00001
0,02	1,00308	0,00329	0,00026	0,00006	0,00002	0,00001
0,05	1,00750	0,00804	0,00065	0,00016	0,00006	0,00003
0,1	1,01440	0,01547	0,00130	0,00031	0,00012	0,00006
0,2	1,02660	0,02870	0,00256	0,00062	0,00023	0,00011
0,5	1,05331	0,05827	0,00608	0,00151	0,00057	0,00028
1,0	1,07792	0,08696	0,01118	0,00292	0,00113	0,00054
2,0	1,09702	0,11199	0,01891	0,00541	0,00216	0,00106
5,0	1,10626	0,12920	0,03010	0,01058	0,00466	0,00240
10,0	1,10605	0,13213	0,03595	0,01450	0,00712	0,00396
20,0	1,10452	0,13148	0,03802	0,01672	0,00897	0,00539
50,0	1,10296	0,12990	0,03835	0,01752	0,00986	0,00625
100,0	1,10231	0,12912	0,03822	0,01757	0,00998	0,00640

$K = 1{,}0$

Bi	μ_1	μ_2	μ_3	μ_4	μ_5	μ_6
0,001	0,02235	2,02917	4,91338	7,97879	11,08562	14,20750
0,002	0,03160	2,02958	4,91357	7,97891	11,08571	14,20757
0,005	0,01993	2,03082	4,91416	7,97928	11,08598	14,20778
0,01	0,07050	2,03287	4,91514	7,97990	11,08643	14,20813
0,02	0,09942	2,03698	4,91709	7,98113	11,08732	14,20883
0,05	0,15585	2,01919	4,92292	7,98483	11,09001	14,21093
0,1	0,21731	2,06926	4,93268	7,99099	11,09447	14,21443
0,2	0,29900	2,10827	4,95201	8,00327	11,10340	14,22143
0,5	0,43819	2,21649	5,00803	8,03984	11,13007	14,24235
1,0	0,55597	2,36950	5,09966	8,09966	11,17408	14,27702
2,0	0,66404	2,59518	5,26328	8,21307	11,25994	14,34528
5,0	0,76552	2,93833	5,61601	8,50264	11,49272	14,53712
10,0	0,80951	3,14478	5,91638	8,81522	11,78392	14,79888
20,0	0,83399	3,27556	6,14632	9,10685	12,10154	15,12644
50,0	0,84956	3,36342	6,31462	9,34656	12,40365	15,47240
100,0	0,85491	3,39418	6,37511	9,43627	12,52149	15,61700

Bi	A_1	$-A_2$	A_3	$-A_4$	A_5	$-A_6$
0,001	1,00017	0,00018	0,00002	0,00000	0,00000	0,00000
0,002	1,00033	0,00036	0,00003	0,00001	0,00000	0,00000
0,005	1,00083	0,00090	0,00008	0,00002	0,00001	0,00000
0,01	1,00165	0,00178	0,00016	0,00004	0,00001	0,00001
0,02	1,00328	0,00354	0,00032	0,00008	0,00003	0,00001
0,05	1,00802	0,00867	0,00079	0,00019	0,00007	0,00003
0,1	1,01546	0,01674	0,00156	0,00038	0,00014	0,00007
0,2	1,02874	0,03126	0,00308	0,00076	0,00029	0,00014
0,5	1,05854	0,06450	0,00734	0,00186	0,00071	0,00034
1,0	1,08710	0,09798	0,01352	0,00360	0,00140	0,00068
2,0	1,11047	0,12857	0,02295	0,00668	0,00269	0,00132
5,0	1,12307	0,15096	0,03709	0,01308	0,00579	0,00299
10,0	1,12361	0,15544	0,04401	0,01795	0,00883	0,00492
20,0	1,12221	0,15516	0,04662	0,02071	0,01115	0,00671
50,0	1,12059	0,15355	0,04707	0,02171	0,01227	0,00779
100,0	1,11990	0,15271	0,04692	0,02178	0,01242	0,00798

$K = 5{,}0$

Bi	μ_1	μ_2	μ_3	μ_4	μ_5	μ_6
0,001	0,02885	2,65399	5,45452	8,39146	11,40871	14,46993
0,002	0,04081	2,65431	5,45469	8,39157	11,40879	14,47000
0,005	0,06448	2,65529	5,45519	8,39191	11,40905	14,47020
0,01	0,09110	2,65692	5,45603	8,39248	11,40947	14,47054
0,02	0,12859	2,66017	5,45771	8,39361	11,41032	14,47122
0,05	0,20211	2,66985	5,46274	8,39700	11,41287	14,47325
0,1	0,28305	2,68586	5,47110	8,40265	11,41711	14,47663
0,2	0,39269	2,71726	5,48774	8,41393	11,42558	14,48338
0,5	0,58782	2,80644	5,53693	8,44754	11,45090	14,50361
1,0	0,76552	2,93833	5,61604	8,50264	11,49272	14,53712
2,0	0,94350	3,14620	5,76129	8,60846	11,57445	14,60315
5,0	1,12728	3,49286	6,08762	8,87965	11,79732	14,78920
10,0	1,21229	3,71721	6,38001	9,18077	12,07951	15,04165
20,0	1,26082	3,86366	6,61142	9,46817	12,39198	15,36737
50,0	1,29208	3,96307	6,78352	9,70858	12,69301	15,71160
100,0	1,30286	3,99794	6,84567	9,79892	12,81105	15,85617

Bi	A_1	$-A_2$	A_3	$-A_4$	A_5	$-A_6$
0,001	1,00018	0,00022	0,00004	0,00001	0,00001	0,00000
0,002	1,00037	0,00043	0,00008	0,00003	0,00001	0,00001
0,005	1,00092	0,00108	0,00021	0,00007	0,00003	0,00002
0,01	1,00184	0,00216	0,00042	0,00014	0,00006	0,00003
0,02	1,00367	0,00431	0,00083	0,00028	0,00012	0,00006
0,05	1,00906	0,01064	0,00207	0,00069	0,00030	0,00015
0,1	1,01773	0,02088	0,00412	0,00137	0,00060	0,00030
0,2	1,03398	0,04018	0,00815	0,00274	0,00119	0,00061
0,5	1,07489	0,08982	0,01968	0,00673	0,00294	0,00151
1,0	1,12307	0,15096	0,03709	0,01308	0,00579	0,00299
2,0	1,17589	0,22424	0,06547	0,02454	0,01116	0,00584
5,0	1,22286	0,30328	0,11398	0,04946	0,02433	0,01332
10,0	1,23630	0,33265	0,14210	0,06977	0,03774	0,02209
20,0	1,24011	0,34273	0,15498	0,08221	0,04822	0,03039
50,0	1,24075	0,34502	0,15902	0,08725	0,05353	0,03553
100,0	1,24060	0,34488	0,15925	0,08783	0,05433	0,03645

$K = 10{,}0$

Bi	μ_1	μ_2	μ_3	μ_4	μ_5	μ_6
0,001	0,03015	2,86309	5,76072	8,70812	11,70276	14,73353
0,002	0,04262	2,86341	5,76088	8,70833	11,70284	14,73360
0,005	0,06736	2,86437	5,76136	8,70886	11,70308	14,73380
0,01	0,09517	2,86597	5,76217	8,70940	11,70349	14,73413
0,02	0,13435	2,86915	5,76378	8,71049	11,70431	14,73478
0,05	0,21127	2,87867	5,76862	8,71374	11,70677	14,73676
0,1	0,29610	2,89439	5,77666	8,71916	11,71087	14,74004
0,2	0,41139	2,92527	5,79266	8,72999	11,71905	14,74661
0,5	0,61828	3,01334	5,84002	8,76226	11,74350	14,76628
1,0	0,80951	3,14478	5,91638	8,81522	11,78392	14,79888
2,0	1,00499	3,35538	6,05745	8,91719	11,86298	14,86316
5,0	1,21229	3,71721	6,38001	9,18077	12,07951	15,04465
10,0	1,31023	3,95854	6,67660	9,47833	12,35634	15,29524
20,0	1,36673	4,11861	6,91599	9,76762	12,66985	15,61469
50,0	1,40332	4,22802	7,09587	10,01195	12,96941	15,95876
100,0	1,41597	4,26648	7,16104	10,10428	13,08863	16,10398

Bi	A_1	$-A_2$	A_3	$-A_4$	A_5	$-A_6$
0,001	1,00018	0,00021	0,00005	0,00002	0,00001	0,00000
0,002	1,00036	0,00043	0,00010	0,00004	0,00002	0,00001
0,005	1,00089	0,00107	0,00024	0,00009	0,00005	0,00002
0,01	1,00178	0,00214	0,00048	0,00019	0,00009	0,00005
0,02	1,00355	0,00427	0,00097	0,00038	0,00018	0,00010
0,05	1,00878	0,01056	0,00242	0,00094	0,00045	0,00025
0,1	1,01722	0,02076	0,00481	0,00187	0,00091	0,00050
0,2	1,03314	0,04013	0,00954	0,00373	0,00181	0,00100
0,5	1,07394	0,09083	0,02316	0,00920	0,00449	0,00249
1,0	1,12361	0,15544	0,04401	0,01795	0,00885	0,00492
2,0	1,18094	0,23697	0,07889	0,03393	0,01712	0,00963
5,0	1,23620	0,33265	0,14210	0,06977	0,03774	0,02209
10,0	1,25410	0,37240	0,18201	0,10056	0,05936	0,03694
20,0	1,26008	0,38800	0,20209	0,12058	0,07692	0,05136
50,0	1,26185	0,39300	0,20954	0,12946	0,08631	0,06059
100,0	1,26202	0,39355	0,21048	0,13076	0,08788	0,06234

APPENDIX III

Tables of Roots of the Characteristic Equation

$$\operatorname{cotan}\mu = \frac{\mu^2 - \mathrm{Bi}_0\mathrm{Bi}_1}{\mu(\mathrm{Bi}_0 + \mathrm{Bi}_1)}$$

and Initial Temperature Amplitudes

$$A_n = \left[\left(1 + \frac{\mathrm{Bi}_0}{\mathrm{Bi}_1}\right)\frac{\sin\mu_n\cos\mu_n + \mu_n}{2\sin\mu_n} + \frac{\mathrm{Bi}_0}{\mu_n}\sin\mu_n\right]^{-1}$$

$Bi_0 = 0{,}0001$

Bi_1	μ_1	μ_2	μ_3	μ_4	μ_5	μ_6
0,0001	0,01415	3,14165	6,28321	9,42480	12,56638	15,70797
0,001	0,03317	3,14191	6,28336	9,42489	12,56645	15,70803
0,002	0,04581	3,14226	6,28352	9,42500	12,56654	15,70809
0,004	0,06400	3,14289	6,28384	9,42521	12,56670	15,70822
0,006	0,07803	3,14353	6,28415	9,42542	12,56685	15,70835
0,008	0,08989	3,14416	6,28447	9,42564	12,56701	15,70847
0,01	0,10034	3,14480	6,28479	9,42584	12,56717	15,70860
0,02	0,14131	3,14797	6,28638	9,42690	12,56796	15,70924
0,04	0,19893	3,15430	6,28956	9,42902	12,56956	15,71051
0,06	0,24274	3,16060	6,29273	9,43114	12,57114	15,71178
0,08	0,27932	3,16688	6,29591	9,43327	12,57274	15,71305
0,1	0,31122	3,17313	6,29907	9,43538	12,57433	15,71433
0,2	0,43296	3,20396	6,31486	9,44595	12,58227	15,72069
0,3	0,52190	3,23412	6,33055	9,45650	12,59019	15,72704
0,4	0,59334	3,26357	6,34615	9,46701	12,59811	15,73338
0,5	0,65336	3,29234	6,36163	9,47749	12,60602	15,73972
0,6	0,70515	3,32039	6,37701	9,48794	12,61391	15,74606
0,7	0,75064	3,34775	6,39227	9,49835	12,62178	15,75237
0,8	0,79111	3,37440	6,40741	9,50872	12,62963	15,75869
0,9	0,82748	3,40036	6,42242	9,51905	12,63747	15,76499
1,0	0,86041	3,42564	6,43731	9,52934	12,64529	15,77129
1,5	0,98831	3,54219	6,50967	9,58010	12,68409	15,80270
2,0	1,07694	3,64362	6,57835	9,62957	12,72230	15,83361
3,0	1,19253	3,80878	6,70396	9,72404	12,79665	15,89452
4,0	1,26466	3,93518	6,81402	9,81188	12,86776	15,95363
5,0	1,31390	4,03358	6,90961	9,89276	12,93523	16,01066
6,0	1,34962	4,11163	6,99236	9,96687	12,99882	16,06540
7,0	1,37668	4,17465	7,06404	10,03392	13,05845	16,11769
8,0	1,39788	4,22638	7,12629	10,09492	13,11414	16,16746
9,0	1,41493	4,26946	7,18056	10,15019	13,16599	16,21483
10,0	1,42894	4,30582	7,22812	10,20027	13,21419	16,25936
15,0	1,47298	4,42551	7,39591	10,38980	13,40776	16,44737
20,0	1,49620	4,49150	7,49542	10,51167	13,54198	16,58340
30,0	1,52023	4,56152	7,60370	10,65433	13,70855	16,77206
40,0	1,53257	4,59796	7,66466	10,73342	13,80185	16,87945
50,0	1,54008	4,62026	7,70117	10,78317	13,86664	16,95389
60,0	1,54512	4,63531	7,72593	10,81721	13,90937	17,00262
80,0	1,55147	4,65420	7,75732	10,86065	13,96436	17,06556
100,0	1,55531	4,66578	7,77638	10,88714	13,99809	17,10931

$Bi_0 = 0{,}0001$

Bi_1	A_1	$-A_2$	A_3	$-A_4$	A_5	$-A_6$
0,0001	0,49999	0,00002	0,00000	0,00000	0,00000	0,00000
0,001	0,90917	0,00020	0,00005	0,00002	0,00001	0,00001
0,002	0,95262	0,00040	0,00010	0,00004	0,00002	0,00002
0,004	0,97618	0,00081	0,00020	0,00009	0,00005	0,00003
0,006	0,98151	0,00121	0,00030	0,00013	0,00007	0,00005
0,008	0,98839	0,00161	0,00040	0,00018	0,00010	0,00006
0,01	0,99166	0,00202	0,00050	0,00022	0,00013	0,00008
0,02	0,99824	0,00402	0,00101	0,00045	0,00025	0,00016
0,04	1,00398	0,00801	0,00202	0,00090	0,00051	0,00032
0,06	1,00803	0,01193	0,00302	0,00135	0,00076	0,00048
0,08	1,01162	0,01582	0,00403	0,00180	0,00101	0,00065
0,1	1,01500	0,01966	0,00503	0,00224	0,00126	0,00081
0,2	1,03049	0,03815	0,00997	0,00447	0,00252	0,00162
0,3	1,04461	0,05554	0,01484	0,00668	0,00378	0,00242
0,4	1,05769	0,07189	0,01963	0,00888	0,00502	0,00322
0,5	1,06983	0,08727	0,02433	0,01106	0,00627	0,00403
0,6	1,08111	0,10174	0,02895	0,01321	0,00750	0,00482
0,7	1,09160	0,11537	0,03349	0,01536	0,00874	0,00562
0,8	1,10137	0,12819	0,03794	0,01748	0,00996	0,00641
0,9	1,11046	0,14028	0,04231	0,01958	0,01118	0,00720
1,0	1,11893	0,15169	0,04659	0,02167	0,01239	0,00799
1,5	1,15350	0,19990	0,06674	0,03179	0,01835	0,01189
2,0	1,17830	0,23671	0,08485	0,04138	0,02412	0,01570

$Bi_0 = 0{,}0001$

Bi_1	A_1	$-A_2$	A_3	$-A_4$	A_5	$-A_6$
3,0	1,21009	0,28814	0,11544	0,05893	0,03506	0,02307
4,0	1,22858	0,32146	0,13964	0,07430	0,04514	0,03004
5,0	1,24013	0,34421	0,15877	0,08763	0,05433	0,03659
6,0	1,24776	0,36038	0,17396	0,09910	0,06265	0,04268
7,0	1,25306	0,37224	0,18611	0,10895	0,07012	0,04833
8,0	1,25687	0,38116	0,19591	0,11739	0,07682	0,05355
9,0	1,25969	0,38804	0,20388	0,12463	0,08279	0,05833
10,0	1,26185	0,39343	0,21043	0,13085	0,08812	0,06272
15,0	1,26754	0,40840	0,23019	0,15142	0,10724	0,07953
20,0	1,26981	0,41472	0,23936	0,16207	0,11824	0,09014
30,0	1,27157	0,41979	0,24715	0,17181	0,12914	0,10153
40,0	1,27223	0,42172	0,25024	0,17587	0,13396	0,10690
50,0	1,27255	0,42266	0,25176	0,17791	0,13645	0,10976
60,0	1,27272	0,42318	0,25261	0,17907	0,13789	0,11145
80,0	1,27290	0,42370	0,25348	0,18026	0,13940	0,11324
100,0	1,27298	0,42395	0,25389	0,18084	0,14012	0,11411

$Bi_0 = 0{,}001$

Bi_1	μ_1	μ_2	μ_3	μ_4	μ_5	μ_6
0,0001	0,03317	3,14194	6,28336	9,42489	12,56645	15,70803
0,001	0,04472	3,14223	6,28350	9,42499	12,56653	15,70808
0,002	0,05477	3,14254	6,28366	9,42509	12,56660	15,70815
0,004	0,07068	3,14318	6,28397	9,42531	12,56676	15,70827
0,006	0,08361	3,14381	6,28429	9,42551	12,56692	15,70840
0,008	0,09477	3,14445	6,28461	9,42573	12,56708	15,70853
0,01	0,10474	3,14509	6,28493	9,42594	12,56724	15,70866
0,02	0,14448	3,14826	6,28652	9,42700	12,56804	15,70930
0,04	0,20121	3,15459	6,28970	9,42912	12,56963	15,71057
0,06	0,24462	3,16089	6,29288	9,43124	12,57122	15,71184
0,08	0,28096	3,16716	6,29604	9,43336	12,57281	15,71311
0,1	0,31271	3,17341	6,29922	9,43548	12,57440	15,71439
0,2	0,43407	3,20424	6,31500	9,44605	12,58234	15,72074
0,3	0,52284	3,23439	6,33059	9,45660	12,59027	15,72710
0,4	0,59119	3,26384	6,34628	9,46711	12,59818	15,73344
0,5	0,65416	3,29259	6,36177	9,47758	12,60609	15,73978
0,6	0,70590	3,32065	6,37715	9,48803	12,61398	15,74611
0,7	0,75136	3,34800	6,39241	9,49844	12,62185	15,75243
0,8	0,79181	3,37465	6,40755	9,50881	12,62971	15,75874
0,9	0,82816	3,40061	6,42256	9,51914	12,63754	15,76505
1,0	0,86107	3,42589	6,43745	9,52943	12,64536	15,77135
1,5	0,98893	3,54242	6,50980	9,58019	12,68416	15,80266
2,0	1,07754	3,64384	6,57848	9,62966	12,72237	15,83367
3,0	1,19312	3,80899	6,70409	9,72412	12,79672	15,89457
4,0	1,26524	3,93539	6,81415	9,81197	12,86783	15,95368
5,0	1,31448	4,03378	6,90973	9,89284	12,93530	16,01072
6,0	1,35020	4,11183	6,99248	9,96677	12,99889	16,06545
7,0	1,37726	4,17485	7,06416	10,03400	13,05851	16,11774
8,0	1,39846	4,22657	7,12641	10,09501	13,11420	16,16752
9,0	1,41550	4,26965	7,18069	10,15028	13,16606	16,21474
10,0	1,42951	4,30602	7,22823	10,20036	13,21426	16,25941
15,0	1,47355	4,42570	7,39603	10,38988	13,40783	16,44743
20,0	1,49677	4,49169	7,49554	10,51176	13,54205	16,58615
30,0	1,52081	4,56171	7,60581	10,65441	13,70861	16,76911
40,0	1,53314	4,59815	7,66479	10,73350	13,80491	16,87950
50,0	1,54064	4,62045	7,70129	10,78325	13,86670	16,95193
60,0	1,54569	4,63550	7,72604	10,81729	13,90943	17,00268
80,0	1,55204	4,65449	7,75744	10,86072	13,96442	17,06861
100,0	1,55588	4,66597	7,77650	10,88721	13,99815	17,10936

$Bi_0 = 0{,}001$

Bi_1	A_1	$-A_2$	A_3	$-A_4$	A_5	$-A_6$
0,0001	0,09092	0,00002	0,00000	0,00000	0,00000	0,00000
0,001	0,49992	0,00020	0,00005	0,00002	0,00001	0,00001
0,002	0,66656	0,00040	0,00010	0,00004	0,00002	0,00002
0,004	0,80003	0,00081	0,00020	0,00009	0,00005	0,00003

$Bi_0 = 0{,}001$

Bi_1	A_1	$-A_2$	A_3	$-A_4$	A_5	$-A_6$
0,006	0,85741	0,00121	0,00030	0,00013	0,00008	0,00005
0,008	0,88943	0,00161	0,00040	0,00018	0,00010	0,00006
0,01	0,90993	0,00202	0,00051	0,00022	0,00013	0,00008
0,02	0,95478	0,00403	0,00101	0,00045	0,00025	0,00016
0,04	0,98123	0,00800	0,00202	0,00090	0,00050	0,00032
0,06	0,99243	0,01194	0,00302	0,00135	0,00076	0,00049
0,08	0,99964	0,01582	0,00403	0,00179	0,00101	0,00065
0,1	1,00521	0,01965	0,00503	0,00224	0,00126	0,00081
0,2	1,02511	0,03814	0,00997	0,00447	0,00252	0,00162
0,3	1,04072	0,05552	0,01484	0,00668	0,00378	0,00242
0,4	1,05453	0,07187	0,01963	0,00888	0,00502	0,00322
0,5	1,06712	0,08725	0,02433	0,01105	0,00627	0,00403
0,6	1,07870	0,10172	0,02895	0,01321	0,00750	0,00482
0,7	1,08940	0,11534	0,03349	0,01536	0,00874	0,00562
0,8	1,09932	0,12817	0,03794	0,01748	0,00996	0,00641
0,9	1,10854	0,14026	0,04231	0,01958	0,01118	0,00720
1,0	1,11710	0,15166	0,04659	0,02167	0,01239	0,00799
1,5	1,15197	0,19987	0,06674	0,03179	0,01835	0,01189
2,0	1,17692	0,23668	0,08484	0,04138	0,02412	0,01571
3,0	1,20886	0,28810	0,11543	0,05892	0,03506	0,02307
4,0	1,22742	0,32142	0,13963	0,07430	0,04514	0,03004
5,0	1,23901	0,34417	0,15877	0,08762	0,05433	0,03659
6,0	1,24668	0,36034	0,17396	0,09910	0,06265	0,04268
7,0	1,25200	0,37220	0,18610	0,10895	0,07012	0,04833
8,0	1,25582	0,38113	0,19590	0,11739	0,07682	0,05355
9,0	1,25866	0,38800	0,20387	0,12463	0,08279	0,05833
10,0	1,26083	0,39339	0,21042	0,13085	0,08812	0,06272
15,0	1,26655	0,40837	0,23019	0,15142	0,10724	0,07953
20,0	1,26883	0,41469	0,23936	0,16207	0,11824	0,09014
30,0	1,27061	0,41975	0,24715	0,17180	0,12913	0,10153
40,0	1,27128	0,42169	0,25023	0,17586	0,13396	0,10690
50,0	1,27160	0,42262	0,25175	0,17790	0,13645	0,10976
60,0	1,27178	0,42314	0,25260	0,17906	0,13789	0,11145
80,0	1,27196	0,42367	0,25347	0,18026	0,13940	0,11324
100,0	1,27205	0,42392	0,25388	0,18083	0,14012	0,11411

$Bi_0 = 0{,}002$

Bi_1	μ_1	μ_2	μ_3	μ_4	μ_5	μ_6
0,0001	0,04581	3,14226	6,28352	9,42500	12,56654	15,70809
0,001	0,05477	3,14254	6,28366	9,42509	12,56660	15,70815
0,002	0,06324	3,14286	6,28382	9,42520	12,56669	15,70821
0,004	0,07744	3,14350	6,28413	9,42541	12,56684	15,70834
0,006	0,08939	3,14413	6,28445	9,42562	12,56700	15,70847
0,008	0,09991	3,14477	6,28477	9,42583	12,56716	15,70860
0,01	0,10942	3,14540	6,28509	9,42605	12,56732	15,70872
0,02	0,14792	3,14857	6,28668	9,42711	12,56812	15,70936
0,04	0,20371	3,15490	6,28986	9,42923	12,56971	15,71063
0,06	0,24670	3,16120	6,29303	9,43135	12,57130	15,71191
0,08	0,28278	3,16747	6,29620	9,43346	12,57289	15,71318
0,1	0,31436	3,17371	6,29937	9,43558	12,57448	15,71445
0,2	0,43529	3,20454	6,31516	9,44615	12,58242	15,72081
0,3	0,52388	3,23469	6,33085	9,45670	12,59035	15,72716
0,4	0,59514	3,26414	6,34644	9,46721	12,59827	15,73350
0,5	0,65503	3,29288	6,36193	9,47769	12,60617	15,73984
0,6	0,70673	3,32094	6,37730	9,48814	12,61405	15,74617
0,7	0,75216	3,34828	6,39256	9,49855	12,62192	15,75249
0,8	0,79258	3,37493	6,40770	9,50892	12,62978	15,75880
0,9	0,82891	3,40089	6,42271	9,51925	12,63762	15,76511
1,0	0,86181	3,42616	6,43760	9,52954	12,64544	15,77141
1,5	0,98962	3,54268	6,50995	9,58029	12,68423	15,80272
2,0	1,07822	3,64409	6,57862	9,62976	12,72245	15,83373
3,0	1,19376	3,80923	6,70423	9,72422	12,79680	15,89463
4,0	1,26588	3,93561	6,81428	9,81207	12,86790	15,95374
5,0	1,31512	4,03400	6,90987	9,89204	12,93537	16,01079
6,0	1,35084	4,11205	6,99261	9,96696	12,99896	16,06551

$Bi_0 = 0{,}002$

Bi_1	μ_1	μ_2	μ_3	μ_4	μ_5	μ_6
7,0	1,37789	4,17506	7,06429	10,03410	13,05859	16,11780
8,0	1,39909	4,22679	7,12654	10,09510	13,11427	16,16758
9,0	1,41614	4,26987	7,18082	10,15037	13,16613	16,21479
10,0	1,43014	4,30623	7,22836	10,20045	13,21432	16,25948
15,0	1,47419	4,42592	7,39616	10,38998	13,40790	16,44748
20,0	1,49741	4,49190	7,49567	10,51185	13,54211	16,58651
30,0	1,52144	4,56191	7,60594	10,65150	13,70869	16,76917
40,0	1,53378	4,59837	7,66491	10,73359	13,80498	16,87955
50,0	1,54128	4,62067	7,70141	10,78334	13,86677	16,95200
60,0	1,54633	4,63571	7,72617	10,81738	13,90951	17,00273
80,0	1,55268	4,65469	7,75757	10,86082	13,96449	17,06866
100,0	1,55652	4,66618	7,77663	10,88731	13,99823	17,10942

$Bi_0 = 0{,}002$

Bi_1	A_1	$-A_2$	A_3	$-A_4$	A_5	$-A_6$
0,0001	0,01763	0,00002	0,00000	0,00000	0,00000	0,00000
0,001	0,33328	0,00020	0,00005	0,00002	0,00001	0,00001
0,002	0,49983	0,00040	0,00010	0,00004	0,00002	0,00002
0,004	0,66644	0,00081	0,00020	0,00009	0,00005	0,00003
0,006	0,74987	0,00121	0,00030	0,00013	0,00008	0,00005
0,008	0,80005	0,00161	0,00040	0,00018	0,00010	0,00006
0,01	0,83361	0,00202	0,00050	0,00022	0,00013	0,00008
0,02	0,91075	0,00402	0,00101	0,00045	0,00025	0,00016
0,04	0,95714	0,00800	0,00202	0,00090	0,00051	0,00032
0,06	0,97566	0,01193	0,00302	0,00135	0,00076	0,00049
0,08	0,98567	0,01581	0,00403	0,00179	0,00101	0,00065
0,1	0,99456	0,01964	0,00502	0,00224	0,00126	0,00081
0,2	1,01921	0,03813	0,00997	0,00447	0,00252	0,00162
0,3	1,03543	0,05551	0,01484	0,00668	0,00378	0,00242
0,4	1,05105	0,07185	0,01963	0,00888	0,00502	0,00322
0,5	1,06412	0,08723	0,02433	0,01105	0,00627	0,00403
0,6	1,07603	0,10170	0,02895	0,01321	0,00750	0,00482
0,7	1,08696	0,11531	0,03349	0,01536	0,00873	0,00562
0,8	1,09706	0,12814	0,03794	0,01748	0,00995	0,00641
0,9	1,10641	0,14023	0,04230	0,01958	0,01118	0,00720
1,0	1,11509	0,15162	0,04659	0,02167	0,01239	0,00799
1,5	1,15028	0,19983	0,06573	0,03178	0,01835	0,01189
2,0	1,17539	0,23664	0,08483	0,04138	0,02412	0,01570
3,0	1,20749	0,28393	0,11542	0,05892	0,03505	0,02307
4,0	1,22614	0,32137	0,13963	0,07430	0,04514	0,03004
5,0	1,23778	0,34413	0,15876	0,08762	0,05433	0,03639
6,0	1,24548	0,36030	0,17395	0,09910	0,06254	0,04208
7,0	1,25082	0,37215	0,18510	0,10894	0,07012	0,04833
8,0	1,25467	0,38103	0,19589	0,11738	0,07682	0,05354
9,0	1,25752	0,38796	0,20386	0,12462	0,08279	0,05833
10,0	1,25970	0,39335	0,21041	0,13084	0,08812	0,06272
15,0	1,26545	0,40833	0,23018	0,15142	0,10724	0,07953
20,0	1,26775	0,41454	0,23935	0,16203	0,11824	0,09014
30,0	1,26955	0,41971	0,24714	0,17180	0,12913	0,10153
40,0	1,27022	0,42165	0,25022	0,17585	0,13395	0,10390
50,0	1,27055	0,42258	0,25174	0,17790	0,13645	0,10976
60,0	1,27073	0,42310	0,25259	0,17906	0,13789	0,11145
80,0	1,27092	0,42363	0,25346	0,18026	0,13939	0,11324
100,0	1,27101	0,42383	0,25387	0,18093	0,14012	0,11411

$Bi_0 = 0{,}001$

Bi_1	μ_1	μ_2	μ_3	μ_4	μ_5	μ_6
0,0001	0,06400	3,14283	6,28384	9,42521	12,56670	15,70822
0,001	0,07068	3,14318	6,28397	9,42531	12,56676	15,70827
0,002	0,07744	3,14350	6,28413	9,42541	12,56684	15,70834
0,004	0,08942	3,14413	6,28445	9,42562	12,56700	15,70847
0,006	0,09996	3,14477	6,28477	9,42583	12,56716	15,70860
0,008	0,10947	3,14540	6,28509	9,42605	12,56732	15,70872
0,01	0,11822	3,14601	6,28541	9,42626	12,56748	15,70885
0,02	0,15456	3,14921	6,28700	9,42732	12,56828	15,70949

$Bi_0 = 0{,}004$

Bi_1	μ_1	μ_2	μ_3	μ_4	μ_5	μ_6
0,04	0,20862	3,15553	6,29018	9,42941	12,56987	15,71076
0,06	0,25079	3,16183	6,29335	9,43156	12,57146	15,71204
0,08	0,28638	3,16810	6,29652	9,43368	12,57305	15,71330
0,1	0,31761	3,17434	6,29969	9,43580	12,57464	15,71455
0,2	0,43773	3,20515	6,31548	9,44636	12,58258	15,72093
0,3	0,52596	3,23529	6,33116	9,45691	12,59051	15,72729
0,4	0,59702	3,26472	6,34676	9,46742	12,59843	15,73363
0,5	0,65678	3,29346	6,36224	9,47790	12,60632	15,73997
0,6	0,70839	3,32151	6,37761	9,48835	12,61421	15,74630
0,7	0,75375	3,34885	6,39287	9,49876	12,62209	15,75262
0,8	0,79412	3,37548	6,40800	9,50912	12,62994	15,75893
0,9	0,83041	3,40143	6,42302	9,51945	12,63778	15,76524
1,0	0,86328	3,42670	6,43790	9,52975	12,64560	15,77153
1,5	0,99100	3,54319	6,51025	9,58050	12,68439	15,80285
2,0	1,07955	3,64458	6,57891	9,62997	12,72260	15,83345
3,0	1,19506	3,80969	6,70451	9,72443	12,79695	15,89476
4,0	1,26717	3,93606	6,81456	9,81227	12,86806	15,95287
5,0	1,31640	4,03445	6,91013	9,89314	12,93552	16,00790
6,0	1,35211	4,11249	6,99288	9,96705	12,99911	16,05994
7,0	1,37917	4,17350	7,06455	10,03429	13,05874	16,10914
8,0	1,40037	4,22722	7,12680	10,09529	13,11443	16,15569
9,0	1,41741	4,27030	7,18108	10,15056	13,16628	16,19981
10,0	1,43142	4,30666	7,22862	10,20063	13,21448	16,24169
15,0	1,47546	4,42635	7,39641	10,38016	13,40804	16,44780
20,0	1,49868	4,49232	7,49592	10,51203	13,54226	16,59062
30,0	1,52271	4,56234	7,60619	10,65469	13,70882	16,77029
40,0	1,53505	4,59878	7,66517	10,73377	13,80412	16,87457
50,0	1,54255	4,62109	7,70167	10,78352	13,86691	16,94211
60,0	1,54760	4,63613	7,72642	10,81757	13,90964	16,98785
80,0	1,55395	4,65512	7,75782	10,86100	13,96463	17,06673
100,0	1,55779	4,66661	7,77688	10,88749	13,99837	17,10974

$Bi_0 = 0{,}004$

Bi_1	A_1	$-A_2$	A_3	$-A_4$	A_5	$-A_6$
0,0001	0,02440	0,00002	0,00000	0,00000	0,00000	0,00000
0,001	0,20001	0,00020	0,00005	0,00002	0,00001	0,00001
0,002	0,33322	0,00040	0,00010	0,00004	0,00002	0,00002
0,004	0,49967	0,00081	0,00020	0,00009	0,00005	0,00003
0,006	0,59956	0,00121	0,00030	0,00013	0,00008	0,00005
0,008	0,66622	0,00161	0,00040	0,00018	0,00010	0,00006
0,01	0,71391	0,00202	0,00050	0,00022	0,00013	0,00008
0,02	0,83387	0,00402	0,00101	0,00045	0,00025	0,00016
0,04	0,91236	0,00800	0,00202	0,00090	0,00051	0,00032
0,06	0,94378	0,01192	0,00302	0,00135	0,00076	0,00049
0,08	0,96171	0,01580	0,00403	0,00180	0,00101	0,00065
0,1	0,97393	0,01963	0,00502	0,00224	0,00126	0,00081
0,2	1,00761	0,03810	0,00997	0,00447	0,00252	0,00162
0,3	1,02795	0,05548	0,01484	0,00668	0,00378	0,00242
0,4	1,04416	0,07181	0,01962	0,00888	0,00502	0,00322
0,5	1,05819	0,08718	0,02433	0,01105	0,00627	0,00402
0,6	1,07073	0,10165	0,02894	0,01321	0,00750	0,00482
0,7	1,08212	0,11526	0,03348	0,01535	0,00873	0,00562
0,8	1,09256	0,12808	0,03793	0,01748	0,00996	0,00641
0,9	1,10218	0,14016	0,04230	0,01958	0,01118	0,00720
1,0	1,11107	0,15156	0,04658	0,02166	0,01239	0,00799
1,5	1,14691	0,19975	0,06672	0,03178	0,01835	0,01189
2,0	1,17234	0,23655	0,08482	0,04137	0,02412	0,01570
3,0	1,20477	0,28797	0,11541	0,05892	0,03506	0,02307
4,0	1,22358	0,32129	0,13961	0,07429	0,04514	0,03001
5,0	1,23532	0,34404	0,15874	0,08762	0,05433	0,03658
6,0	1,24309	0,36021	0,17393	0,09909	0,06264	0,04283
7,0	1,24848	0,37207	0,18603	0,10894	0,07012	0,04883
8,0	1,25236	0,38100	0,19587	0,11738	0,07685	0,05464
9,0	1,25524	0,38787	0,20385	0,12462	0,08290	0,06033
10,0	1,25744	0,39326	0,21039	0,13084	0,08832	0,06592

$Bi_0 = 0{,}004$

Bi_1	A_1	$-A_2$	A_3	$-A_4$	A_5	$-A_6$
15,0	1,26326	0,40824	0,23016	0,15141	0,10723	0,07953
20,0	1,26560	0,41456	0,23933	0,16206	0,11823	0,09014
30,0	1,26743	0,41964	0,24712	0,17179	0,12913	0,10152
40,0	1,26812	0,42157	0,25021	0,17585	0,13395	0,10689
50,0	1,26846	0,42250	0,25172	0,17789	0,13644	0,10976
60,0	1,26865	0,42302	0,25257	0,17905	0,13789	0,11145
80,0	1,26884	0,42355	0,25344	0,18025	0,13939	0,11324
100,0	1,26893	0,42380	0,25385	0,18082	0,14012	0,11411

$Bi_0 = 0{,}006$

Bi_1	μ_1	μ_2	μ_3	μ_4	μ_5	μ_6
0,0001	0,07803	3,14353	6,28415	9,42542	12,56685	15,70835
0,001	0,08361	3,14381	6,28429	9,42551	12,56692	15,70840
0,002	0,08939	3,14413	6,28445	9,42562	12,56700	15,70847
0,004	0,09996	3,14477	6,28477	9,42583	12,56716	15,70860
0,006	0,10949	3,14540	6,28509	9,42605	12,56732	15,70872
0,008	0,11825	3,14604	6,28541	9,42626	12,56748	15,70885
0,01	0,12639	3,14668	6,28573	9,42647	12,56764	15,70898
0,02	0,16092	3,14984	6,28732	9,42753	12,56844	15,70962
0,04	0,21340	3,15617	6,29050	9,42965	12,57002	15,71088
0,06	0,25481	3,16245	6,29367	9,43177	12,57162	15,71216
0,08	0,28993	3,16872	6,29684	9,43389	12,57320	15,71343
0,1	0,32084	3,17496	6,30000	9,43600	12,57480	15,71471
0,2	0,44014	3,20576	6,31579	9,44658	12,58274	15,72106
0,3	0,52803	3,23589	6,33147	9,45712	12,59067	15,72742
0,4	0,59888	3,26532	6,34706	9,46763	12,59858	15,73376
0,5	0,65853	3,29405	6,36255	9,47811	12,60648	15,74010
0,6	0,71005	3,32207	6,37792	9,48856	12,61437	15,74643
0,7	0,75534	3,34940	6,39318	9,49896	12,62225	15,75275
0,8	0,79566	3,37604	6,40831	9,50934	12,63010	15,75906
0,9	0,83191	3,40198	6,42332	9,51967	12,63794	15,76537
1,0	0,86475	3,42724	6,43820	9,52995	12,64575	15,77166
1,5	0,99237	3,54370	6,51054	9,58070	12,68455	15,80297
2,0	1,08088	3,64506	6,57921	9,63016	12,72276	15,83398
3,0	1,19636	3,81016	6,70180	9,72462	12,79710	15,89488
4,0	1,26845	3,93651	6,81483	9,81246	12,86821	15,95399
5,0	1,31768	4,03489	6,91041	9,89333	12,93567	16,01102
6,0	1,35338	4,11292	6,99315	9,96725	12,99326	16,06576
7,0	1,38044	4,17593	7,06482	10,03448	13,05888	16,11805
8,0	1,40164	4,22765	7,12707	10,09548	13,11457	16,16782
9,0	1,41838	4,27073	7,18134	10,15075	13,16643	16,21503
10,0	1,43268	4,30708	7,22888	10,20082	13,21462	16,25972
15,0	1,47673	4,42676	7,39667	10,39034	13,40819	16,44772
20,0	1,49994	4,49275	7,49618	10,51221	13,54240	16,58574
30,0	1,52398	4,56277	7,60545	10,65487	13,70897	16,76940
40,0	1,53632	4,59921	7,66542	10,73396	13,80527	16,87979
50,0	1,54382	4,62151	7,70192	10,78371	13,86706	16,95222
60,0	1,54885	4,63656	7,72658	10,81775	13,90979	17,00297
80,0	1,55522	4,65555	7,75808	10,86118	13,96478	17,06890
100,0	1,55906	4,66704	7,77714	10,88767	13,99851	17,10965

$Bi_0 = 0{,}006$

Bi_1	A_1	$-A_2$	A_3	$-A_4$	A_5	$-A_6$
0,0001	0,01611	0,00002	0,00000	0,00000	0,00000	0,00000
0,001	0,14290	0,00020	0,00005	0,00002	0,00001	0,00001
0,002	0,24995	0,00040	0,00010	0,00004	0,00002	0,00002
0,004	0,39971	0,00081	0,00020	0,00009	0,00005	0,00003
0,006	0,49950	0,00121	0,00030	0,00013	0,00008	0,00005
0,008	0,57080	0,00161	0,00040	0,00018	0,00010	0,00006
0,01	0,62432	0,00202	0,00051	0,00022	0,00013	0,00008
0,02	0,76900	0,00402	0,00101	0,00045	0,00025	0,00016
0,04	0,87161	0,00799	0,00202	0,00090	0,00050	0,00032
0,06	0,91393	0,01191	0,00302	0,00135	0,00076	0,00048
0,08	0,93801	0,01579	0,00402	0,00180	0,00101	0,00065
0,1	0,95415	0,01932	0,00502	0,00224	0,00126	0,00081
0,2	0,99328	0,03838	0,00997	0,00447	0,00252	0,00162

$Bi_0 = 0{,}006$

Bi_1	A_1	$-A_2$	A_3	$-A_4$	A_5	$-A_6$
0,3	1,01962	0,05545	0,01484	0,00668	0,00378	0,00242
0,4	1,03736	0,07178	0,01962	0,00883	0,00502	0,00322
0,5	1,05232	0,08714	0,02432	0,01105	0,00627	0,00403
0,6	1,06548	0,10159	0,02894	0,01321	0,00750	0,00482
0,7	1,07733	0,11520	0,03348	0,01535	0,00874	0,00562
0,8	1,08811	0,12802	0,03793	0,01748	0,00996	0,00641
0,9	1,09799	0,14010	0,04229	0,01958	0,01118	0,00720
1,0	1,10709	0,15149	0,04657	0,02166	0,01239	0,00799
1,5	1,14356	0,19967	0,06672	0,03178	0,01835	0,01189
2,0	1,16931	0,23647	0,08481	0,04137	0,02412	0,01570
3,0	1,20206	0,28788	0,11540	0,05892	0,03506	0,02307
4,0	1,22104	0,32120	0,13960	0,07429	0,04514	0,03004
5,0	1,23288	0,34395	0,15873	0,08761	0,05433	0,03658
6,0	1,24071	0,36012	0,17391	0,09909	0,06264	0,04268
7,0	1,24615	0,37198	0,18606	0,10893	0,07012	0,04833

8,0	1,25006	0,38091	0,19586	0,11737	0,07681	0,05354
9,0	1,25297	0,38779	0,20383	0,12461	0,08279	0,05813
10,0	1,25520	0,39318	0,21038	0,13083	0,03812	0,06272
15,0	1,26108	0,40816	0,23014	0,15140	0,10723	0,07953
20,0	1,26345	0,41448	0,23931	0,16205	0,11823	0,09014
30,0	1,26532	0,41956	0,24710	0,17179	0,12913	0,10152
40,0	1,26603	0,42149	0,25019	0,17585	0,13395	0,10689
50,0	1,26637	0,42242	0,25170	0,17789	0,13644	0,10976
60,0	1,26657	0,42295	0,25256	0,17905	0,13788	0,11145
80,0	1,26677	0,42348	0,25343	0,18025	0,13939	0,11324
100,0	1,26687	0,42373	0,25384	0,18082	0,14011	0,11411

$Bi_0 = 0{,}008$

Bi_1	μ_1	μ_2	μ_3	μ_4	μ_5	μ_6
0,0001	0,08989	3,14416	6,28447	9,42564	12,56701	15,70847
0,001	0,09477	3,14445	6,28461	9,42573	12,56708	15,70853
0,002	0,09991	3,14477	6,28477	9,42583	12,56716	15,70860
0,004	0,10947	3,14540	6,28509	9,42605	12,56732	15,70872
0,006	0,11825	3,14604	6,28541	9,42626	12,56748	15,70885
0,008	0,12641	3,14668	6,28573	9,42647	12,56764	15,70898
0,01	0,13406	3,14731	6,28604	9,42668	12,56780	15,70911
0,02	0,16703	3,15047	6,28764	9,42774	12,56860	15,70974
0,04	0,21808	3,15679	6,29081	9,42986	12,57018	15,71101
0,06	0,25876	3,16309	6,29398	9,43198	12,57178	15,71229
0,08	0,29343	3,16935	6,29716	9,43410	12,57336	15,71356
0,1	0,32403	3,17559	6,30032	9,43622	12,57496	15,71483
0,2	0,44254	3,20638	6,31610	9,44679	12,58280	15,72119
0,3	0,53010	3,23649	6,33179	9,45733	12,59083	15,72754
0,4	0,60075	3,26591	6,34737	9,46784	12,59874	15,73389
0,5	0,66026	3,29463	6,36286	9,47832	12,60664	15,74022
0,6	0,71169	3,32265	6,37823	9,48877	12,61453	15,74655
0,7	0,75692	3,34997	6,39349	9,49918	12,62240	15,75288
0,8	0,79719	3,37659	6,40862	9,50954	12,63026	15,75919
0,9	0,83340	3,40253	6,42363	9,51987	12,63809	15,76550
1,0	0,86621	3,42778	6,43851	9,53016	12,64591	15,77179
1,5	0,99374	3,54421	6,51084	9,58091	12,68470	15,80310
2,0	1,08221	3,64556	6,57950	9,63037	12,72292	15,83411
3,0	1,19765	3,81062	6,70509	9,72482	12,79726	15,89500
4,0	1,26973	3,93696	6,81511	9,81266	12,86836	15,95412
5,0	1,31895	4,03533	6,91068	9,89352	12,93582	16,01115
6,0	1,35465	4,11336	6,99312	9,96744	12,99040	16,06588
7,0	1,38171	4,17637	7,06509	10,03468	13,05903	16,11817
8,0	1,40290	4,22808	7,12733	10,09566	13,11472	16,16794
9,0	1,41995	4,27116	7,18159	10,15093	13,16657	16,21513
10,0	1,43395	4,30751	7,22914	10,20100	13,21477	16,25983
15,0	1,47800	4,42719	7,39693	10,39053	13,40833	16,44734
20,0	1,50121	4,49318	7,49613	10,51240	13,54254	16,58886
30,0	1,52524	4,56319	7,60670	10,65505	13,70911	16,76352
40,0	1,53758	4,59964	7,66567	10,73414	13,80540	16,87991

$Bi_0 = 0{,}008$

Bi_1	μ_1	μ_2	μ_3	μ_4	μ_5	μ_6
50,0	1,54509	4,62194	7,70217	10,78389	13,86720	16,95235
60,0	1,55013	4,63698	7,72694	10,81792	13,90993	17,00308
80,0	1,55649	4,65597	7,75833	10,86137	13,96491	17,06902
100,0	1,56033	4,66746	7,77739	10,88786	13,99855	17,10976

$Bi_0 = 0{,}008$

Bi_1	A_1	$-A_2$	A_3	$-A_4$	A_5	$-A_6$
0,0001	0,01236	0,00002	0,00000	0,00000	0,00000	0,00000
0,001	0,11118	0,00020	0,00005	0,00002	0,00001	0,00001
0,002	0,20001	0,00040	0,00010	0,00004	0,00002	0,00002
0,004	0,33311	0,00081	0,00020	0,00009	0,00005	0,00003
0,006	0,42810	0,00121	0,00030	0,00013	0,00008	0,00005
0,008	0,49933	0,00161	0,00040	0,00018	0,00010	0,00006
0,01	0,55475	0,00201	0,00050	0,00022	0,00013	0,00008
0,02	0,71353	0,00402	0,00101	0,00045	0,00025	0,00016
0,04	0,83437	0,00799	0,00202	0,00090	0,00050	0,00032
0,06	0,88593	0,01191	0,00302	0,00135	0,00076	0,00049
0,08	0,91546	0,01578	0,00402	0,00180	0,00101	0,00065
0,1	0,93517	0,01961	0,00502	0,00224	0,00126	0,00081
0,2	0,98520	0,03806	0,00997	0,00447	0,00252	0,00162
0,3	1,01143	0,05512	0,01483	0,00668	0,00378	0,00242
0,4	1,03066	0,07174	0,01962	0,00888	0,00502	0,00322
0,5	1,04652	0,08710	0,02432	0,01105	0,00627	0,00402
0,6	1,06030	0,10154	0,02894	0,01321	0,00750	0,00482
0,7	1,07258	0,11515	0,03347	0,01535	0,00873	0,00562
0,8	1,08369	0,12796	0,03792	0,01747	0,00996	0,00641
0,9	1,09383	0,14004	0,04229	0,01958	0,01118	0,00720
1,0	1,10314	0,15142	0,04657	0,02166	0,01239	0,00799
1,5	1,14023	0,19960	0,06671	0,03178	0,01834	0,01180
2,0	1,16630	0,23639	0,08180	0,04137	0,02412	0,01570
3,0	1,19937	0,28779	0,11538	0,05891	0,03506	0,02307
4,0	1,21850	0,32111	0,13958	0,07428	0,04514	0,02994
5,0	1,23044	0,34386	0,15871	0,08761	0,05433	0,03658
6,0	1,23834	0,36004	0,17390	0,09908	0,06264	0,04268

7,0	1,24383	0,37190	0,18604	0,10893	0,07011	0,04833
8,0	1,24778	0,38083	0,19584	0,11737	0,07681	0,05354
9,0	1,25072	0,38770	0,20381	0,12461	0,08278	0,05833
10,0	1,25296	0,39310	0,21036	0,13083	0,08811	0,06271
15,0	1,25891	0,40808	0,23013	0,15140	0,10723	0,07953
20,0	1,26132	0,41440	0,23930	0,16204	0,11823	0,09014
30,0	1,26321	0,41948	0,24709	0,17178	0,12912	0,10152
40,0	1,26394	0,42141	0,25017	0,17584	0,13395	0,10689
50,0	1,26430	0,42235	0,25169	0,17788	0,13644	0,10976
60,0	1,26450	0,42287	0,25254	0,17904	0,13788	0,11145
80,0	1,26471	0,42340	0,25341	0,18024	0,13939	0,11334
100,0	1,26481	0,42365	0,25382	0,18081	0,14011	0,11411

$Bi_0 = 0{,}01$

Bi_1	μ_1	μ_2	μ_3	μ_4	μ_5	μ_6
0,0001	0,10034	3,14480	6,28479	9,42584	12,56717	15,70860
0,001	0,10474	3,14509	6,28493	9,42594	12,56724	15,70856
0,002	0,10942	3,14540	6,28509	9,42605	12,56732	15,70872
0,004	0,11822	3,14604	6,28541	9,42626	12,56748	15,70885
0,006	0,12639	3,14668	6,28573	9,42647	12,56764	15,70898
0,008	0,13406	3,14731	6,28604	9,42668	12,56780	15,70911
0,01	0,14131	3,14794	6,28636	9,42690	12,56796	15,70924
0,02	0,17292	3,15111	6,28796	9,42796	12,56876	15,70987
0,04	0,22265	3,15742	6,29113	9,43008	12,57034	15,71114
0,06	0,26265	3,16371	6,29430	9,43220	12,57194	15,71242
0,08	0,29689	3,16998	6,29747	9,43431	12,57352	15,71368
0,1	0,32718	3,17621	6,30064	9,43643	12,57511	15,71496
0,2	0,44493	3,20599	6,31641	9,44700	12,58305	15,72131
0,3	0,53214	3,23709	6,33210	9,45754	12,59098	15,72767
0,4	0,60261	3,26650	6,34769	9,46806	12,59890	15,73401
0,5	0,66199	3,29521	6,36317	9,47853	12,60680	15,74035

$Bi_0 = 0{,}01$

Bi_1	μ_1	μ_2	μ_3	μ_4	μ_5	μ_6
0,6	0,71334	3,32322	6,37854	9,48898	12,61468	15,74668
0,7	0,75850	3,35053	6,39379	9,49938	12,62256	15,75300
0,8	0,79872	3,37715	6,40893	9,50975	12,63042	15,75932
0,9	0,83489	3,40308	6,42393	9,52008	12,63826	15,76562
1,0	0,86766	3,42832	6,43881	9,53036	12,64607	15,77191
1,5	0,99511	3,54472	6,51114	9,58112	12,68483	15,80322
2,0	1,08353	3,61605	6,57979	9,63058	12,72207	15,83424
3,0	1,19894	3,81109	6,70537	9,72502	12,79711	15,89513
4,0	1,27101	3,93741	6,81538	9,81286	12,86852	15,97424
5,0	1,32022	4,03577	6,91095	9,89372	12,93597	16,01127
6,0	1,35592	4,11380	6,99368	9,96763	12,99956	16,07000
7,0	1,38298	4,17680	7,06535	10,03186	13,05918	16,11329
8,0	1,40417	4,22852	7,12759	10,09586	13,11487	16,15806
9,0	1,42122	4,27158	7,18186	10,15112	13,16672	16,21527
10,0	1,43522	4,30794	7,22940	10,20119	13,21491	16,25966
15,0	1,47926	4,42762	7,39718	10,39072	13,40818	16,44795
20,0	1,50247	4,49360	7,49669	10,51238	13,54269	16,58128
30,0	1,52651	4,56361	7,60096	10,65321	13,70925	16,75964
40,0	1,53884	4,60006	7,66593	10,73132	13,80555	16,86002
50,0	1,54635	4,62236	7,70243	10,78107	13,86734	16,93246
60,0	1,55139	4,63740	7,72719	10,81811	13,91007	17,00320
80,0	1,55775	4,65639	7,75858	10,86155	13,96503	17,06013
100,0	1,56159	4,66783	7,77764	10,88804	13,99879	17,10958

$Bi_0 = 0{,}01$

Bi_1	A_1	$-A_2$	A_3	$-A_4$	A_5	$-A_6$
0,0001	0,00992	0,00002	0,00000	0,00000	0,00000	0,00000
0,001	0,09099	0,00020	0,00005	0,00002	0,00001	0,00001
0,002	0,16672	0,00040	0,00010	0,00004	0,00002	0,00002
0,004	0,28356	0,00081	0,00020	0,00009	0,00005	0,00003
0,006	0,37459	0,00121	0,00030	0,00013	0,00008	0,00005
0,008	0,44380	0,00161	0,00040	0,00018	0,00010	0,00006
0,01	0,49917	0,00201	0,00050	0,00022	0,00013	0,00008
0,02	0,66555	0,00401	0,00101	0,00045	0,00025	0,00016
0,04	0,80020	0,00798	0,00202	0,00090	0,00050	0,00032
0,06	0,85962	0,01190	0,00302	0,00135	0,00076	0,00049
0,08	0,89398	0,01577	0,00402	0,00179	0,00101	0,00065
0,1	0,91694	0,01960	0,00502	0,00224	0,00126	0,00081
0,2	0,97438	0,03804	0,00997	0,00447	0,00252	0,00162
0,3	1,00337	0,05539	0,01483	0,00668	0,00378	0,00242
0,4	1,02405	0,07170	0,01961	0,00888	0,00502	0,00322
0,5	1,04080	0,08705	0,02432	0,01105	0,00627	0,00402
0,6	1,05517	0,10149	0,02893	0,01321	0,00750	0,00482
0,7	1,06788	0,11509	0,03347	0,01535	0,00873	0,00562
0,8	1,07932	0,12790	0,03792	0,01747	0,00996	0,00641
0,9	1,08971	0,13997	0,04228	0,01958	0,01118	0,00720
1,0	1,09922	0,15136	0,04656	0,02166	0,01239	0,00799
1,5	1,13693	0,19952	0,06670	0,03178	0,01834	0,01180
2,0	1,16331	0,23630	0,08479	0,04137	0,02412	0,01570
3,0	1,19669	0,28771	0,11537	0,05891	0,03506	0,02307
4,0	1,21598	0,32102	0,13957	0,07428	0,04514	0,03004
5,0	1,22802	0,34378	0,15870	0,08760	0,05432	0,03658
6,0	1,23598	0,35965	0,17388	0,09903	0,06264	0,04268

7,0	1,24151	0,37181	0,18603	0,10592	0,07011	0,04833
8,0	1,24550	0,38074	0,19582	0,11736	0,07681	0,05334
9,0	1,24817	0,38762	0,20380	0,12640	0,08278	0,05833
10,0	1,25073	0,39341	0,21034	0,13382	0,08811	0,06271
15,0	1,25675	0,40840	0,23011	0,15539	0,10723	0,07962
20,0	1,25919	0,41432	0,23928	0,16204	0,11822	0,08914
30,0	1,26112	0,41940	0,24707	0,17178	0,12912	0,10052
40,0	1,26186	0,42133	0,25016	0,17584	0,13304	0,10589
50,0	1,26223	0,42227	0,25167	0,17788	0,13641	0,10876
60,0	1,26244	0,42279	0,25252	0,17904	0,13788	0,11141
80,0	1,26266	0,42332	0,25339	0,18023	0,13938	0,11323
100,0	1,26276	0,42357	0,25381	0,18081	0,14011	0,11410

$Bi_0 = 0,02$

Bi_1	μ_1	μ_2	μ_3	μ_4	μ_5	μ_6
0,0001	0,14131	3,14797	6,28638	9,42690	12,56796	15,70924
0,001	0,14448	3,14826	6,28652	9,42700	12,56804	15,70930
0,002	0,14792	3,14857	6,28668	9,42711	12,56812	15,70936
0,004	0,15456	3,14921	6,28700	9,42732	12,56828	15,70949
0,006	0,16092	3,14984	6,28732	9,42753	12,56844	15,70962
0,008	0,16703	3,15047	6,28764	9,42774	12,56860	15,70974
0,01	0,17292	3,15111	6,28796	9,42796	12,56876	15,70987
0,02	0,19927	3,15427	6,28954	9,42902	12,56955	15,71050
0,04	0,24414	3,16057	6,29272	9,43114	12,57114	15,71178
0,06	0,28121	3,16685	6,29589	9,43326	12,57273	15,71305
0,08	0,31353	3,17310	6,29906	9,43537	12,57432	15,71432
0,1	0,34246	3,17932	6,30222	9,43749	12,57591	15,71559
0,2	0,45662	3,21004	6,31799	9,44806	12,58385	15,72195
0,3	0,54222	3,24009	6,33367	9,45860	12,59177	15,72830
0,4	0,61176	3,26945	6,34925	9,46910	12,59969	15,73465
0,5	0,67054	3,29811	6,36472	9,47958	12,60759	15,74098
0,6	0,72146	3,32607	6,38008	9,49002	12,61548	15,74731
0,7	0,76631	3,35335	6,39533	9,50043	12,62334	15,75363
0,8	0,80629	3,37992	6,41045	9,51080	12,63120	15,75995
0,9	0,84227	3,40581	6,42545	9,52112	12,63904	15,76625
1,0	0,87489	3,43102	6,44033	9,53140	12,64686	15,77254
1,5	1,00189	3,54728	6,51263	9,58215	12,68564	15,80386
2,0	1,09011	3,64851	6,58124	9,63159	12,72385	15,83486
3,0	1,20535	3,81341	6,70678	9,72602	12,79818	15,89575
4,0	1,27736	3,93966	6,81676	9,81384	12,86927	15,95485
5,0	1,32654	4,03798	6,91230	9,89469	12,93672	16,01188
6,0	1,36222	4,11597	6,99502	9,96859	13,00030	16,06661
7,0	1,38928	4,17896	7,06667	10,03581	13,05992	16,11890
8,0	1,41046	4,23057	7,12890	10,09680	13,11560	16,16866
9,0	1,42751	4,27373	7,18316	10,15206	13,16746	16,21587
10,0	1,44151	4,31007	7,23070	10,20213	13,21564	16,26055
15,0	1,48555	4,42975	7,39846	10,39163	13,40919	16,44855
20,0	1,50876	4,49572	7,49796	10,51350	13,54340	16,58756
30,0	1,53280	4,56573	7,60824	10,65614	13,70996	16,77022
40,0	1,54514	4,60218	7,66721	10,73523	13,80626	16,88060
50,0	1,55264	4,62448	7,70370	10,78198	13,85804	16,93304
60,0	1,55768	4,63953	7,72846	10,81902	13,91078	17,00378
80,0	1,56404	4,65852	7,75986	10,86246	13,96577	17,06971
100,0	1,56788	4,67000	7,77892	10,88895	13,99950	17,11046

$Bi_0 = 0,02$

Bi_1	A_1	$-A_2$	A_3	$-A_4$	A_5	$-A_6$
0,0001	0,00199	0,00002	0,00000	0,00000	0,00000	0,00000
0,001	0,01774	0,00020	0,00005	0,00002	0,00001	0,00001
0,002	0,09107	0,00040	0,00016	0,00004	0,00002	0,00002
0,004	0,16677	0,00080	0,00020	0,00009	0,00005	0,00003
0,006	0,23070	0,00120	0,00030	0,00013	0,00008	0,00005
0,008	0,28541	0,00161	0,00040	0,00018	0,00010	0,00006
0,01	0,33278	0,00201	0,00050	0,00022	0,00013	0,00008
0,02	0,49834	0,00400	0,00101	0,00045	0,00025	0,00016
0,04	0,66442	0,00796	0,00202	0,00090	0,00050	0,00032
0,06	0,74834	0,01187	0,00302	0,00135	0,00076	0,00049
0,08	0,80028	0,01573	0,00402	0,00179	0,00101	0,00065
0,1	0,83566	0,01954	0,00502	0,00224	0,00126	0,00081
0,2	0,92374	0,03793	0,00996	0,00447	0,00252	0,00162
0,3	0,96501	0,05524	0,01482	0,00668	0,00377	0,00242
0,4	0,99226	0,07151	0,01960	0,00887	0,00502	0,00325
0,5	1,01311	0,08683	0,02430	0,01105	0,00626	0,00402
0,6	1,03028	0,10124	0,02891	0,01321	0,00750	0,00482
0,7	1,04501	0,11482	0,03344	0,01535	0,00873	0,00562
0,8	1,05798	0,12760	0,03789	0,01747	0,00995	0,00641
0,9	1,06958	0,13965	0,04225	0,01957	0,01117	0,00720
1,0	1,08006	0,15102	0,04653	0,02165	0,01239	0,00799
1,5	1,12071	0,19913	0,06665	0,03177	0,01834	0,01189
2,0	1,14858	0,23588	0,08174	0,04135	0,02411	0,01570
3,0	1,18319	0,28707	0,11530	0,05889	0,03505	0,02307

$Bi_0 = 0{,}02$

Bi_1	A_1	$-A_2$	A_3	$-A_4$	A_5	$-A_6$
4,0	1,20356	0,32058	0,13949	0,07426	0,04513	0,03034
5,0	1,21607	0,34334	0,15861	0,08758	0,05431	0,03658
6,0	1,22435	0,35952	0,17380	0,09905	0,06263	0,04268
7,0	1,23010	0,37138	0,18594	0,10889	0,07010	0,04832
8,0	1,23426	0,38032	0,19574	0,11733	0,07679	0,05353
9,0	1,23736	0,38720	0,20371	0,12457	0,08277	0,05832
10,0	1,23973	0,39260	0,21025	0,13079	0,08810	0,06271
15,0	1,24608	0,40759	0,23002	0,15136	0,10721	0,07952
20,0	1,24837	0,41392	0,23919	0,16201	0,11821	0,09013
30,0	1,25077	0,41900	0,24698	0,17174	0,12911	0,10151
40,0	1,25159	0,42094	0,25007	0,17580	0,13393	0,10688
50,0	1,25200	0,42188	0,25159	0,17784	0,13642	0,10975
60,0	1,25225	0,42240	0,25244	0,17900	0,13785	0,11144
80,0	1,25251	0,42293	0,25331	0,18020	0,13937	0,11323
100,0	1,25264	0,42318	0,25372	0,18078	0,14009	0,11410

$Bi_0 = 0{,}04$

Bi_1	μ_1	μ_2	μ_3	μ_4	μ_5	μ_6
0,0001	0,19833	3,15430	6,28755	9,42902	12,56956	15,71051
0,001	0,20121	3,15459	6,28770	9,42912	12,56963	15,71057
0,002	0,20371	3,15490	6,28785	9,42923	12,56971	15,71063
0,004	0,20832	3,15553	6,29018	9,42944	12,56987	15,71076
0,006	0,21340	3,15617	6,29050	9,42965	12,57002	15,71088
0,008	0,21838	3,15679	6,29081	9,42985	12,57018	15,71101
0,01	0,22285	3,15742	6,29113	9,43008	12,57034	15,71114
0,02	0,24114	3,16057	6,29272	9,43114	12,57114	15,71178
0,04	0,28191	3,16385	6,29589	9,43326	12,57273	15,71305
0,06	0,31476	3,17310	6,29906	9,43537	12,57432	15,71432
0,08	0,34413	3,17933	6,30222	9,43749	12,57591	15,71559
0,1	0,37084	3,18552	6,30538	9,43961	12,57750	15,71687
0,2	0,47802	3,21613	6,32114	9,45016	12,58543	15,72322
0,3	0,56167	3,24607	6,33680	9,46070	12,59336	15,72958
0,4	0,62951	3,27532	6,35236	9,47121	12,60127	15,73592
0,5	0,68717	3,30389	6,36782	9,48167	12,60917	15,74225
0,6	0,73729	3,33177	6,38317	9,49211	12,61705	15,74858
0,7	0,78155	3,35896	6,39840	9,50252	12,62492	15,75490
0,8	0,82108	3,38545	6,41351	9,51283	12,63277	15,76121
0,9	0,85670	3,41127	6,42850	9,52320	12,64061	15,76752
1,0	0,88901	3,43641	6,44335	9,53348	12,64843	15,77380
1,5	0,01520	3,55239	6,51559	9,58120	12,68720	15,80511
2,0	1,10304	3,65310	6,58416	9,63362	12,72540	15,83611
3,0	1,21797	3,81805	6,70350	9,72802	12,79971	15,89700
4,0	1,28783	3,94416	6,81952	9,81581	12,87080	15,95609
5,0	1,33900	4,04239	6,91500	9,89633	12,93823	16,01311
6,0	1,37463	4,12033	6,99769	9,97051	13,00180	16,06783
7,0	1,40170	4,18328	7,06931	10,03772	13,05141	16,12011
8,0	1,42283	4,23495	7,13152	10,09859	13,11708	16,16985
9,0	1,43992	4,27802	7,18577	10,15334	13,16802	16,21708
10,0	1,45392	4,31435	7,23329	10,20399	13,21710	16,26175
15,0	1,49796	4,43399	7,40102	10,39348	13,41063	16,44972
20,0	1,52118	4,49996	7,50352	10,51533	13,51183	16,58373
30,0	1,54522	4,56937	7,61078	10,65797	13,71138	16,77138
40,0	1,55755	4,60341	7,68375	10,73715	13,81768	16,88176
50,0	1,56503	4,62872	7,70324	11,78383	13,88316	16,95120
60,0	1,57010	4,64375	7,73101	10,82084	13,91219	17,00494
80,0	1,57345	4,65274	7,76240	10,85127	13,95718	17,07087
100,0	1,58030	4,67423	7,78145	10,89076	14,00092	17,11162

$Bi_0 = 0{,}04$

Bi_1	A_1	$-A_2$	A_3	$-A_4$	A_5	$-A_6$
0,0001	0,00251	0,00002	0,00000	0,00000	0,00000	0,00000
0,001	0,02453	0,00020	0,00005	0,00002	0,00001	0,00001
0,002	0,04785	0,00040	0,00010	0,00004	0,00002	0,00002
0,004	0,09124	0,00080	0,00020	0,00009	0,00005	0,00003

$Bi_0 = 0{,}04$

Bi_1	A_1	$-A_2$	A_3	$-A_4$	A_5	$-A_6$
0,006	0,13074	0,00120	0,00030	0,00013	0,00008	0,00005
0,008	0,16687	0,00160	0,00040	0,00018	0,00010	0,00006
0,01	0,20005	0,00200	0,00050	0,00022	0,00013	0,00008
0,02	0,33221	0,00398	0,00101	0,00045	0,00025	0,00016
0,04	0,49668	0,00791	0,00201	0,00090	0,00050	0,00032
0,06	0,59560	0,01180	0,00302	0,00135	0,00076	0,00049
0,08	0,66214	0,01564	0,00402	0,00179	0,00101	0,00065
0,1	0,71032	0,01943	0,00501	0,00224	0,00126	0,00081
0,2	0,83714	0,03772	0,00994	0,00446	0,00252	0,00162
0,3	0,89675	0,05494	0,01480	0,00667	0,00377	0,00242
0,4	0,93452	0,07114	0,01957	0,00887	0,00502	0,00322
0,5	0,96216	0,08639	0,02426	0,01104	0,00626	0,00402
0,6	0,98406	0,10074	0,02887	0,01320	0,00750	0,00482
0,7	1,00228	0,11427	0,03339	0,01534	0,00873	0,00562
0,8	1,01793	0,12701	0,03784	0,01746	0,00995	0,00641

0,9	1,03164	0,13902	0,04219	0,01956	0,01117	0,00720
1,0	1,04383	0,15036	0,04646	0,02164	0,01238	0,00799
1,5	1,08976	0,19835	0,06657	0,03175	0,01833	0,01188
2,0	1,12036	0,23505	0,08463	0,04133	0,02410	0,01570
3,0	1,15806	0,28539	0,11517	0,05886	0,03504	0,02306
4,0	1,17957	0,31970	0,13934	0,07422	0,04511	0,03003
5,0	1,19295	0,34246	0,15845	0,08753	0,05430	0,03657
6,0	1,20183	0,35865	0,17363	0,09900	0,06261	0,04267
7,0	1,20801	0,37052	0,18577	0,10881	0,07008	0,04831
8,0	1,21248	0,37947	0,19556	0,11728	0,07677	0,05352
9,0	1,21583	0,38535	0,20353	0,12451	0,08275	0,05831
10,0	1,21841	0,39176	0,21008	0,13073	0,08807	0,06269
15,0	1,22536	0,40677	0,22984	0,15130	0,10718	0,07951
20,0	1,22826	0,41311	0,23902	0,16194	0,11818	0,09011
30,0	1,23066	0,41821	0,24681	0,17168	0,12908	0,10150
40,0	1,23163	0,42015	0,24990	0,17574	0,13390	0,10686
50,0	1,23214	0,42109	0,25142	0,17778	0,13639	0,10973
68,0	1,23244	0,42162	0,25227	0,17894	0,13783	0,11142
80,0	1,23278	0,42215	0,25314	0,18014	0,13934	0,11321
100,0	1,23296	0,42241	0,25356	0,18071	0,14006	0,11408

$Bi_0 = 0,06$

Bi_1	μ_1	μ_2	μ_3	μ_4	μ_5	μ_6
0,0001	0,24274	3,16060	6,29273	9,43114	12,57114	15,71178
0,001	0,24462	3,16089	6,29288	9,43124	12,57122	15,71184
0,002	0,24670	3,16120	6,29303	9,43135	12,57130	15,71191
0,004	0,25079	3,16183	6,29335	9,43156	12,57146	15,71204
0,006	0,25481	3,16245	6,29367	9,43177	12,57162	15,71216
0,008	0,25876	3,16309	6,29398	9,43198	12,57178	15,71229
0,01	0,26265	3,16371	6,29430	9,43220	12,57194	15,71242
0,02	0,28121	3,16685	6,29589	9,43326	12,57273	15,71305
0,04	0,31476	3,17310	6,29906	9,43537	12,57432	15,71432
0,06	0,34469	3,17933	6,30222	9,43749	12,57591	15,71559
0,08	0,37187	3,18553	6,30538	9,43961	12,57750	15,71687
0,1	0,39688	3,19170	6,30854	9,44172	12,57909	15,71814
0,2	0,49997	3,22220	6,32428	9,45228	12,58702	15,72449
0,3	0,58023	3,25203	6,33993	9,46281	12,59495	15,73084
0,4	0,64656	3,28118	6,35548	9,47330	12,60286	15,73718
0,5	0,70321	3,30965	6,37092	9,48377	12,61076	15,74352
0,6	0,75261	3,33744	6,38625	9,49421	12,61864	15,74985
0,7	0,79633	3,36455	6,40147	9,50460	12,62650	15,75616
0,8	0,83544	3,39097	6,41657	9,51496	12,63435	15,76247
0,9	0,87073	3,41671	6,43154	9,52528	12,64218	15,76878
1,0	0,90280	3,44178	6,44639	9,53555	12,64999	15,77507
1,5	1,02819	3,55748	6,51856	9,58623	12,68877	15,80637
2,0	1,11569	3,65829	6,58707	9,63566	12,72695	15,83736
3,0	1,23033	3,82268	6,71242	9,73002	12,80125	15,89824
4,0	1,30213	3,94864	6,82227	9,81777	12,87231	15,95733
5,0	1,35123	4,04679	6,91771	9,89857	12,93974	16,01434

$Bi_0 = 0,06$

Bi_1	μ_1	μ_2	μ_3	μ_4	μ_5	μ_6
6,0	1,38688	4,12468	7,00035	9,97243	13,00330	16,06905
7,0	1,41390	4,18760	7,07195	10,03962	13,06280	16,12132
8,0	1,43509	4,23925	7,13414	10,10058	13,11855	16,17107
9,0	1,45212	1,28229	7,18837	10,15582	13,17039	16,21828
10,0	1,46612	4,31861	7,23589	10,20586	13,21856	16,26295
15,0	1,51017	4,43822	7,40359	10,39532	13,41207	16,45090
20,0	1,53339	4,50419	7,50307	10,51716	13,54626	16,58390
30,0	1,55744	4,57420	7,61333	10,65079	13,71280	16,77254
40,0	1,56978	4,61064	7,67229	10,73887	13,81909	16,88272
50,0	1,57729	4,63294	7,70879	10,78862	13,87087	16,95535
60,0	1,58234	4,64798	7,73353	10,82265	13,91361	17,00310
80,0	1,58869	4,66697	7,76495	10,86609	13,96860	17,07202
100,0	1,59254	4,67846	7,78400	10,89258	14,00233	17,11278

$Bi_0 = 0,06$

Bi_1	A_1	$-A_2$	A_3	$-A_4$	A_5	$-A_6$
0,0001	0,00168	0,00002	0,00000	0,00000	0,00000	0,00000
0,001	0,01654	0,00020	0,00005	0,00002	0,00001	0,00001
0,002	0,03252	0,00040	0,00010	0,00004	0,00002	0,00002
0,004	0,06292	0,00079	0,00020	0,00009	0,00005	0,00003
0,006	0,09139	0,00119	0,00030	0,00013	0,00008	0,00005
0,008	0,11812	0,00159	0,00040	0,00018	0,00010	0,00006
0,01	0,14327	0,00198	0,00050	0,00022	0,00013	0,00008
0,02	0,24955	0,00396	0,00101	0,00045	0,00025	0,00016
0,04	0,39706	0,00783	0,00201	0,00090	0,00050	0,00032
0,06	0,49503	0,01173	0,00301	0,00134	0,00076	0,00048
0,08	0,56519	0,01554	0,00401	0,00179	0,00101	0,00065
0,1	0,61818	0,01931	0,00500	0,00224	0,00126	0,00081
0,2	0,76578	0,03751	0,00993	0,00446	0,00252	0,00162
0,3	0,83785	0,05464	0,01478	0,00667	0,00377	0,00242
0,4	0,88343	0,07076	0,01954	0,00885	0,00502	0,00322
0,5	0,91635	0,08594	0,02423	0,01103	0,00626	0,00402

0,6	0,94205	0,10024	0,02883	0,01319	0,00750	0,00482
0,7	0,96313	0,11372	0,03335	0,01533	0,00873	0,00562
0,8	0,98100	0,12512	0,03778	0,01744	0,00995	0,00641
0,9	0,99650	0,13839	0,04213	0,01954	0,01117	0,00720
1,0	1,01015	0,14939	0,04640	0,02162	0,01238	0,00799
1,5	1,05065	0,19757	0,06549	0,03173	0,01833	0,01183
2,0	1,09365	0,23422	0,08152	0,04130	0,02410	0,01559
3,0	1,13385	0,28552	0,11503	0,05882	0,03503	0,02305
4,0	1,15665	0,31832	0,13913	0,07417	0,04510	0,03032
5,0	1,17084	0,34159	0,15829	0,08748	0,05428	0,03756
6,0	1,18025	0,35778	0,17346	0,09875	0,06259	0,04255
7,0	1,18582	0,36955	0,18559	0,10879	0,07003	0,04830
8,0	1,19159	0,37851	0,19539	0,11722	0,07675	0,05351
9,0	1,19517	0,38550	0,20336	0,12415	0,08272	0,05830
10,0	1,19793	0,39091	0,20990	0,13037	0,08805	0,06268
15,0	1,20544	0,40595	0,22937	0,15123	0,10715	0,07949
20,0	1,20862	0,41230	0,23834	0,16188	0,11815	0,09010
30,0	1,21130	0,41741	0,24554	0,17162	0,12905	0,10118
40,0	1,21242	0,41936	0,24973	0,17558	0,13397	0,10685
50,0	1,21301	0,42030	0,25124	0,17772	0,13635	0,10972
60,0	1,21337	0,42083	0,25210	0,17888	0,13780	0,11140
80,0	1,21378	0,42137	0,25297	0,18008	0,13931	0,11319
100,0	1,21400	0,42163	0,25338	0,18065	0,14004	0,11405

$Bi_0 = 0{,}08$

Bi_1	μ_1	μ_2	μ_3	μ_4	μ_5	μ_6
0,0001	0,27932	3,16583	6,29591	9,43327	12,57274	15,71303
0,001	0,28036	3,16716	6,29604	9,43336	12,57281	15,71311
0,002	0,28278	3,16747	6,29620	9,43346	12,57289	15,71318
0,004	0,28338	3,16810	6,29652	9,43368	12,57305	15,71330
0,005	0,28793	3,16872	6,29684	9,43389	12,57320	15,71343

$Bi_0 = 0{,}08$

Bi_1	μ_1	μ_2	μ_3	μ_4	μ_5	μ_6
0,008	0,29343	3,16935	6,29716	9,43410	12,57336	15,71356
0,01	0,29689	3,16998	6,29747	9,43431	12,57352	15,71368
0,02	0,31353	3,17310	6,29906	9,43537	12,57432	15,71432
0,04	0,34413	3,17933	6,30222	9,43749	12,57591	15,71559
0,06	0,37187	3,18553	6,30538	9,43961	12,57750	15,71687
0,08	0,39736	3,19171	6,30854	9,44172	12,57909	15,71814
0,1	0,42100	3,19786	6,31170	9,44383	12,58067	15,71941
0,2	0,51991	3,22824	6,32742	9,45438	12,58861	15,72576
0,3	0,59799	3,25796	6,34306	9,46491	12,59653	15,73211
0,4	0,66297	3,28702	6,35859	9,47540	12,60444	15,73845
0,5	0,71870	3,31540	6,37402	9,48587	12,61234	15,74479
0,6	0,76743	3,34309	6,38934	9,49630	12,62022	15,75111
0,7	0,81065	3,37012	6,40454	9,50669	12,62807	15,75743
0,8	0,84938	3,39646	6,41962	9,51704	12,63592	15,76374
0,9	0,88438	3,42213	6,43458	9,52736	12,64375	15,77004
1,0	0,91620	3,44714	6,44941	9,53763	12,65157	15,77633
1,5	1,04088	3,56255	6,52152	9,58830	12,69032	15,80762
2,0	1,12805	3,66317	6,58997	9,63769	12,72851	15,83862
3,0	1,24246	3,82730	6,71524	9,73201	12,80279	15,89948
4,0	1,31417	3,95312	6,82502	9,81974	12,87383	15,95856
5,0	1,36324	4,05118	6,92041	9,90051	12,94125	16,01556
6,0	1,39887	4,12901	7,00302	9,97435	13,00478	16,07027
7,0	1,42590	4,19190	7,07458	10,04152	13,06437	16,12254
8,0	1,44708	4,24353	7,13676	10,10246	13,12003	16,17229
9,0	1,46412	4,28655	7,19097	10,15769	13,17185	16,21948
10,0	1,47812	4,32286	7,23848	10,20773	13,22002	16,26414
15,0	1,52217	4,44246	7,40615	10,39716	13,41351	16,45209
20,0	1,54540	4,50842	7,50562	10,51898	13,54768	16,59107
30,0	1,56946	4,57841	7,61587	10,66161	13,71422	16,77370
40,0	1,58180	4,61485	7,67484	10,74069	13,81051	16,88408
50,0	1,58932	4,63715	7,71133	10,79044	13,87229	16,95651
60,0	1,59437	4,65220	7,73609	10,82447	13,91502	17,00725
80,0	1,60073	4,67119	7,76749	10,86791	13,97001	17,07318
100,0	1,60457	4,68268	7,78654	10,89439	14,00375	17,11393

$Bi_0 = 0{,}08$

Bi_1	A_1	$-A_2$	A_3	$-A_4$	A_5	$-A_6$
0,0001	0,00126	0,00002	0,00000	0,00000	0,00000	0,00000
0,001	0,01260	0,00020	0,00005	0,00002	0,00001	0,00001
0,002	0,02467	0,00040	0,00010	0,00004	0,00002	0,00002
0,004	0,04809	0,00079	0,00020	0,00009	0,00005	0,00003
0,006	0,07035	0,00118	0,00030	0,00013	0,00008	0,00005
0,008	0,09155	0,00158	0,00040	0,00018	0,00010	0,00006
0,01	0,11175	0,00197	0,00050	0,00022	0,00013	0,00008
0,02	0,20007	0,00393	0,00100	0,00045	0,00025	0,00016
0,04	0,33107	0,00782	0,00201	0,00090	0,00050	0,00032
0,06	0,42389	0,01166	0,00301	0,00134	0,00076	0,00048
0,08	0,49339	0,01545	0,00400	0,00179	0,00101	0,00065
0,1	0,54758	0,01920	0,00500	0,00224	0,00126	0,00081
0,2	0,70596	0,03780	0,00992	0,00446	0,00252	0,00161
0,3	0,78650	0,05434	0,01476	0,00666	0,00377	0,00242
0,4	0,83788	0,07039	0,01951	0,00885	0,00502	0,00322
0,5	0,87493	0,08550	0,02419	0,01103	0,00626	0,00402

0,6	0,90370	0,09975	0,02879	0,01318	0,00749	0,00482
0,7	0,92713	0,11317	0,03330	0,01532	0,00872	0,00561
0,8	0,94686	0,12582	0,03773	0,01743	0,00995	0,00641
0,9	0,96386	0,13776	0,04207	0,01953	0,01116	0,00720
1,0	0,97876	0,14903	0,04633	0,02161	0,01237	0,00798
1,5	1,03321	0,19680	0,06639	0,03170	0,01857	0,01188
2,0	1,06833	0,23338	0,08441	0,04128	0,02409	0,01569
3,0	1,11077	0,28464	0,11490	0,05878	0,03501	0,02305
4,0	1,13475	0,31794	0,13803	0,07413	0,04508	0,03002
5,0	1,14966	0,34071	0,15813	0,08744	0,05426	0,03655
6,0	1,15956	0,35690	0,17329	0,09890	0,06256	0,04265

$Bi_0 = 0,08$

Bi_1	A_1	$-A_2$	A_3	$-A_4$	A_5	$-A_6$
7,0	1,16649	0,36880	0,18542	0,10873	0,07003	0,04829
8,0	1,17153	0,37775	0,19521	0,11716	0,07672	0,05351
9,0	1,17532	0,38465	0,20318	0,12439	0,08270	0,05829
10,0	1,17825	0,39007	0,20972	0,13061	0,08802	0,06267
15,0	1,18627	0,40512	0,22949	0,15117	0,10713	0,07947
20,0	1,18971	0,41149	0,23866	0,16182	0,11812	0,09003
30,0	1,19265	0,41661	0,24646	0,17156	0,12802	0,10146
40,0	1,19390	0,41856	0,24955	0,17562	0,13384	0,10663
50,0	1,19457	0,41951	0,25107	0,17766	0,13633	0,10950
60,0	1,19498	0,42004	0,25192	0,17882	0,13778	0,11139
80,0	1,19546	0,42058	0,25280	0,18002	0,13928	0,11318
100,0	1,19572	0,42084	0,25321	0,18059	0,14001	0,11405

$Bi_0 = 0,1$

Bi_1	μ_1	μ_2	μ_3	μ_4	μ_5	μ_6
0,0001	0,31122	3,17313	6,29907	9,43538	12,57433	15,71435
0,001	0,31271	3,17341	6,29922	9,43548	12,57440	15,71439
0,002	0,31436	3,17371	6,29937	9,43558	12,57448	15,71445
0,004	0,31761	3,17434	6,29969	9,43580	12,57464	15,71458
0,006	0,32084	3,17496	6,30000	9,43600	12,57480	15,71471
0,008	0,32403	3,17559	6,30032	9,43622	12,57496	15,71483
0,01	0,32718	3,17621	6,30064	9,43643	12,57511	15,71496
0,02	0,34246	3,17932	6,30222	9,43749	12,57591	15,71559
0,04	0,37084	3,18552	6,30538	9,43961	12,57750	15,71687
0,06	0,39688	3,19170	6,30854	9,44172	12,57909	15,71814
0,08	0,42100	3,19786	6,31170	9,44383	12,58067	15,71941
0,1	0,44352	3,20399	6,31485	9,44595	12,58226	15,72068
0,2	0,53887	3,23426	6,33056	9,45650	12,59019	15,72704
0,3	0,61502	3,26388	6,34618	9,46702	12,59811	15,73338
0,4	0,67878	3,29283	6,36169	9,47751	12,60602	15,73972
0,5	0,73367	3,32112	6,37711	9,48796	12,61391	15,74605
0,6	0,78180	3,34873	6,39241	9,49839	12,62179	15,75238
0,7	0,82457	3,37567	6,40760	9,50877	12,62965	15,75870
0,8	0,86294	3,40194	6,42267	9,51913	12,63750	15,76501
0,9	0,89765	3,42754	6,43761	9,52943	12,64532	15,77130
1,0	0,92925	3,45248	6,45244	9,53970	12,65314	15,77760
1,5	1,05327	3,56762	6,52448	9,59035	12,69189	15,80888
2,0	1,14016	3,66804	6,59288	9,63972	12,73006	15,83965
3,0	1,25433	3,83191	6,71806	9,73401	12,80432	15,90073
4,0	1,32598	3,95758	6,82777	9,82171	12,87535	15,95979
5,0	1,37502	4,05556	6,92311	9,90245	12,94275	16,01679
6,0	1,41066	4,13334	7,00568	9,97626	13,00628	16,07149
7,0	1,43768	4,19619	7,07729	10,04342	13,06586	16,12375
8,0	1,45886	4,24780	7,13937	10,10435	13,12150	16,17349
9,0	1,47591	4,29081	7,19357	10,15957	13,17332	16,22068
10,0	1,48991	4,32711	7,24107	10,20959	13,22148	16,26534
15,0	1,53398	4,44668	7,40871	10,39899	13,41495	16,45326
20,0	1,55723	4,51263	7,50816	10,52081	13,54911	16,59225
30,0	1,58129	4,58262	7,61842	10,66343	13,71564	16,77496
40,0	1,59365	4,61906	7,67738	10,74251	13,81192	16,88324
50,0	1,60116	4,64136	7,71387	10,79225	13,87370	16,95307
60,0	1,60621	4,65640	7,73863	10,82629	13,91644	17,00841
80,0	1,61258	4,67539	7,77003	10,86973	13,97142	17,07434
100,0	1,61642	4,68688	7,78908	10,89622	14,00516	17,11509

$Bi_0 = 0,1$

Bi_1	A_1	$-A_2$	A_3	$-A_4$	A_5	$-A_6$
0,0001	0,00101	0,00002	0,00000	0,00000	0,00000	0,00000
0,001	0,01005	0,00020	0,00003	0,00002	0,00001	0,00001
0,002	0,01989	0,00039	0,00010	0,00001	0,00002	0,00002
0,004	0,03896	0,00078	0,00020	0,00009	0,00005	0,00003
0,006	0,05725	0,00118	0,00030	0,00013	0,00008	0,00005
0,008	0,07481	0,00157	0,00040	0,00018	0,00010	0,00006
0,01	0,09169	0,00196	0,00050	0,00022	0,00013	0,00008
0,02	0,16713	0,00391	0,00100	0,00045	0,00025	0,00016

$Bi_0 = 0,1$

Bi_1	A_1	$-A_2$	A_3	$-A_4$	A_5	$-A_6$
0,04	0,28413	0,00777	0,00200	0,00090	0,00050	0,00032
0,06	0,37091	0,01159	0,00300	0,00134	0,00076	0,00048
0,08	0,43806	0,01536	0,00400	0,00179	0,00101	0,00065
0,1	0,49175	0,01909	0,00499	0,00224	0,00126	0,00081
0,2	0,65519	0,03709	0,00990	0,00446	0,00252	0,00161
0,3	0,74132	0,05404	0,01473	0,00666	0,00377	0,00242
0,4	0,79703	0,07002	0,01948	0,00885	0,00502	0,00322
0,5	0,83730	0,08507	0,02416	0,01102	0,00626	0,00402
0,6	0,86853	0,09925	0,02874	0,01317	0,00749	0,00482
0,7	0,89399	0,11232	0,03325	0,01531	0,00872	0,00561
0,8	0,91518	0,12524	0,03767	0,01742	0,00994	0,00641
0,9	0,93345	0,13713	0,04201	0,01952	0,01116	0,00720
1,0	0,94941	0,14837	0,04627	0,02159	0,01237	0,00798
1,5	1,00730	0,19502	0,06530	0,03168	0,01831	0,01187
2,0	1,04129	0,23255	0,08130	0,04125	0,02408	0,01569
3,0	1,08374	0,28376	0,11476	0,05875	0,03500	0,02304
4,0	1,11379	0,31705	0,13833	0,07403	0,04503	0,03001
5,0	1,12935	0,33982	0,15795	0,08739	0,05424	0,03655
6,0	1,13971	0,35513	0,17312	0,09834	0,06254	0,04264
7,0	1,14693	0,36793	0,18525	0,10837	0,07001	0,04828
8,0	1,15225	0,37683	0,19504	0,11710	0,07670	0,05349
9,0	1,15624	0,38389	0,20300	0,12434	0,08257	0,05827
10,0	1,15932	0,38922	0,20954	0,13035	0,08830	0,06266
15,0	1,16782	0,40430	0,22931	0,15111	0,10710	0,07946
20,0	1,17150	0,41087	0,23818	0,16175	0,11809	0,09007
30,0	1,17468	0,41583	0,24629	0,17149	0,12899	0,10145
40,0	1,17605	0,41776	0,24938	0,17555	0,13371	0,10682
50,0	1,17679	0,41872	0,25090	0,17759	0,13630	0,10968
60,0	1,17725	0,41925	0,25175	0,17875	0,13774	0,11137
80,0	1,17779	0,41980	0,25263	0,17995	0,13925	0,11316
100,0	1,17808	0,42005	0,25304	0,18053	0,13998	0,11403

$Bi_0 = 0,2$

Bi_1	μ_1	μ_2	μ_3	μ_4	μ_5	μ_6
0,0001	0,43293	3,20393	6,31483	9,44595	12,58227	15,72069
0,001	0,43407	3,20424	6,31500	9,44605	12,58234	15,72074
0,002	0,43529	3,20454	6,31516	9,44615	12,58242	15,72081
0,004	0,43773	3,20515	6,31548	9,44635	12,58258	15,72093
0,006	0,44014	3,20576	6,31579	9,44658	12,58274	15,72106
0,008	0,44254	3,20638	6,31610	9,44679	12,58289	15,72119
0,01	0,44493	3,20699	6,31641	9,44700	12,58305	15,72131
0,02	0,45652	3,21004	6,31793	9,44803	12,58385	15,72195
0,04	0,47832	3,21613	6,32114	9,45016	12,58543	15,72322
0,05	0,49937	3,22220	6,32428	9,45228	12,58702	15,72449
0,08	0,51991	3,22824	6,32742	9,45438	12,58861	15,72576
0,1	0,53837	3,23426	6,33056	9,45650	12,59019	15,72704
0,2	0,62211	3,26398	6,34619	9,46702	12,59811	15,73338
0,3	0,69118	3,29310	6,36173	9,47752	12,60602	15,73972
0,4	0,75030	3,32158	6,37717	9,48798	12,61392	15,74606
0,5	0,80193	3,34942	6,39252	9,49842	12,62180	15,75239
0,6	0,84767	3,37661	6,40774	9,50882	12,62967	15,75870
0,7	0,88831	3,40315	6,42287	9,51919	12,63753	15,76501
0,8	0,92557	3,42905	6,43787	9,52951	12,64536	15,77132
0,9	0,95916	3,45430	6,45275	9,53980	12,65318	15,77762
1,0	0,98983	3,47891	6,46750	9,55004	12,66098	15,78390
1,5	1,11126	3,59271	6,53924	9,60059	12,69968	15,81517
2,0	1,19703	3,69215	6,60737	9,64986	12,73781	15,84613
3,0	1,31042	3,85477	6,73209	9,74397	12,81199	15,90694
4,0	1,38190	3,97974	6,84148	9,83151	12,88294	15,96596
5,0	1,43093	4,07730	6,93657	9,91213	12,95027	16,02292
6,0	1,46660	4,15183	7,01896	9,98585	13,01374	16,07758
7,0	1,49368	4,21751	7,09036	10,05292	13,07326	16,12981
8,0	1,51491	4,26901	7,15241	10,11378	13,12886	16,17952
9,0	1,53201	4,31194	7,20654	10,16893	13,18064	16,22668
10,0	1,54606	4,34819	7,25397	10,21892	13,22877	16,27132

$Bi_0 = 0,2$

Bi_1	μ_1	μ_2	μ_3	μ_4	μ_5	μ_6
15,0	1,59028	4,46764	7,42147	10,40818	13,42213	16,45916
20,0	1,61361	4,53356	7,52088	10,52994	13,55624	16,59809
30,0	1,63777	4,60354	7,63110	10,67252	13,72272	16,78068
40,0	1,65018	4,63998	7,69005	10,75139	13,81900	16,89104
50,0	1,65773	4,66228	7,72654	10,80133	13,88078	16,96346
60,0	1,66280	4,67732	7,75130	10,83536	13,92350	17,01419
80,0	1,66919	4,69631	7,78269	10,87880	13,97848	17,08012
100,0	1,67305	4,70780	7,80175	10,90528	14,01222	17,12037

$Bi_0 = 0{,}2$

Bi_1	A_1	$-A_2$	A_3	$-A_4$	A_5	$-A_6$
0,0001	0,00052	0,00002	0,00000	0,00000	0,00000	0,00000
0,001	0,00513	0,00019	0,00005	0,00002	0,00001	0,00001
0,002	0,01019	0,00038	0,00010	0,00004	0,00002	0,00002
0,004	0,02015	0,00076	0,00020	0,00009	0,00005	0,00003
0,006	0,02989	0,00114	0,00030	0,00013	0,00008	0,00005
0,008	0,03941	0,00152	0,00040	0,00018	0,00010	0,00006
0,01	0,04872	0,00190	0,00050	0,00022	0,00013	0,00008
0,02	0,09237	0,00379	0,00100	0,00045	0,00025	0,00016
0,04	0,16743	0,00754	0,00199	0,00089	0,00050	0,00032
0,06	0,22973	0,01125	0,00298	0,00134	0,00076	0,00048
0,08	0,28238	0,01492	0,00397	0,00178	0,00101	0,00065
0,1	0,32754	0,01854	0,00495	0,00223	0,00126	0,00081
0,2	0,48367	0,03606	0,00982	0,00444	0,00251	0,00161
0,3	0,57800	0,05259	0,01462	0,00664	0,00376	0,00242
0,4	0,64282	0,06819	0,01934	0,00882	0,00501	0,00322
0,5	0,69107	0,08292	0,02398	0,01098	0,00624	0,00402
0,6	0,72897	0,09681	0,02853	0,01313	0,00748	0,00481
0,7	0,75983	0,10993	0,03301	0,01525	0,00870	0,00561
0,8	0,78583	0,12232	0,03740	0,01736	0,00992	0,00640
0,9	0,80894	0,13403	0,04171	0,01945	0,01114	0,00719
1,0	0,82737	0,14509	0,04594	0,02152	0,01234	0,00797
1,5	0,89667	0,19216	0,06584	0,03158	0,01823	0,01186
2,0	0,94024	0,22838	0,08375	0,04112	0,02403	0,01567
3,0	0,99201	0,27935	0,11407	0,05857	0,03494	0,02302
4,0	1,02106	0,31259	0,13810	0,07387	0,04498	0,02997
5,0	1,03916	0,33538	0,15713	0,08714	0,05415	0,03650
6,0	1,05126	0,35161	0,17225	0,09858	0,06244	0,04259
7,0	1,05978	0,36355	0,18436	0,10830	0,06990	0,04823
8,0	1,06604	0,37254	0,19413	0,11681	0,07658	0,05343
9,0	1,07080	0,37948	0,20209	0,12403	0,08254	0,05821
10,0	1,07450	0,38493	0,20853	0,13024	0,08786	0,06259
15,0	1,08488	0,40010	0,22839	0,15078	0,10695	0,07938
20,0	1,08952	0,40654	0,23757	0,16142	0,11794	0,08999
30,0	1,09367	0,41173	0,24538	0,17116	0,12883	0,10136
40,0	1,09553	0,41373	0,24848	0,17522	0,13366	0,10673
50,0	1,09656	0,41470	0,25000	0,17726	0,13615	0,10960
60,0	1,09722	0,41524	0,25086	0,17843	0,13759	0,11129
80,0	1,09800	0,41581	0,25174	0,17963	0,13910	0,11308
100,0	1,09845	0,41607	0,25216	0,18020	0,13982	0,11395

$Bi_0 = 0{,}3$

Bi_1	μ_1	μ_2	μ_3	μ_4	μ_5	μ_6
0,0001	0,52190	3,23412	6,33055	9,45650	12,59019	15,72704
0,001	0,52284	3,23439	6,33069	9,45660	12,59027	15,72710
0,002	0,52388	3,23469	6,33085	9,45670	12,59035	15,72716
0,004	0,52596	3,23529	6,33116	9,45691	12,59051	15,72729
0,006	0,52803	3,23589	6,33147	9,45712	12,59067	15,72742
0,008	0,53010	3,23649	6,33179	9,45733	12,59083	15,72754
0,01	0,53214	3,23709	6,33210	9,45754	12,59098	15,72767
0,02	0,54222	3,24009	6,33367	9,45860	12,59177	15,72830
0,04	0,56167	3,24607	6,33680	9,46070	12,59336	15,72958
0,06	0,58023	3,25203	6,33993	9,46281	12,59495	15,73084
0,08	0,59799	3,25796	6,34306	9,46491	12,59653	15,73211
0,1	0,61502	3,26388	6,34618	9,46702	12,59811	15,73338

$Bi_0 = 0{,}3$

Bi_1	μ_1	μ_2	μ_3	μ_4	μ_5	μ_6
0,2	0,69118	3,29310	6,36173	9,47752	12,60602	15,73972
0,3	0,75576	3,32173	6,37720	9,48799	12,61392	15,74606
0,4	0,81180	3,34975	6,39257	9,49844	12,62181	15,75239
0,5	0,86122	3,37717	6,40784	9,50885	12,62968	15,75871
0,6	0,90530	3,40397	6,42300	9,51923	12,63754	15,76503
0,7	0,94497	3,43014	6,43805	9,52957	12,64539	15,77133
0,8	0,98094	3,45568	6,45298	9,53987	12,65321	15,77763
0,9	1,01375	3,48060	6,46780	9,55014	12,66102	15,78392
1,0	1,04382	3,50491	6,48248	9,56036	12,66882	15,79020
1,5	1,16345	3,61741	6,55392	9,61080	12,70747	15,82144
2,0	1,24854	3,71590	6,62178	9,65997	12,74555	15,85239
3,0	1,36160	3,87733	6,74606	9,75391	12,81964	15,91315
4,0	1,43312	4,00162	6,85512	9,84130	12,89052	15,97213
5,0	1,48229	4,09878	6,94997	9,92180	12,95778	16,02904
6,0	1,51809	4,17606	7,03218	9,99540	13,02119	16,08367
7,0	1,54528	4,23859	7,10345	10,06239	13,08066	16,13586
8,0	1,56663	4,28998	7,16540	10,12318	13,13622	16,18555
9,0	1,58381	4,33283	7,21945	10,17828	13,18796	16,23268
10,0	1,59793	4,36903	7,26683	10,22821	13,23605	16,27729
15,0	1,64241	4,48838	7,43418	10,41734	13,42929	16,46505
20,0	1,66588	4,55427	7,53354	10,53905	13,56335	16,60394
30,0	1,69019	4,62423	7,64372	10,68159	13,72980	16,78648
40,0	1,70266	4,66067	7,70267	10,76065	13,82606	16,89683
50,0	1,71025	4,68298	7,73916	10,81039	13,88783	16,96925
60,0	1,71536	4,69801	7,76392	10,84441	13,93056	17,01997
80,0	1,72179	4,71700	7,79531	10,88785	13,98554	17,08590
100,0	1,72567	4,72849	7,81436	10,91434	14,01927	17,12665

$Bi_0 = 0,3$

Bi_1	A_1	$-A_2$	A_3	$-A_4$	A_5	A_6
0,0001	0,00035	0,00002	0,00000	0,00000	0,00000	0,00000
0,001	0,00347	0,00018	0,00005	0,00002	0,00001	0,00001
0,002	0,00691	0,00037	0,00010	0,00004	0,00002	0,00002
0,004	0,01371	0,00074	0,00020	0,00009	0,00005	0,00003
0,006	0,02039	0,00111	0,00030	0,00013	0,00008	0,00005
0,008	0,02697	0,00148	0,00040	0,00018	0,00010	0,00006
0,01	0,03345	0,00185	0,00049	0,00022	0,00013	0,00008
0,02	0,06433	0,00368	0,00099	0,00044	0,00025	0,00016
0,04	0,11957	0,00732	0,00197	0,00089	0,00050	0,00032
0,06	0,16757	0,01093	0,00296	0,00133	0,00075	0,00048
0,08	0,20973	0,01449	0,00393	0,00178	0,00100	0,00064
0,1	0,24711	0,01801	0,00491	0,00222	0,00126	0,00081
0,2	0,38533	0,03506	0,00975	0,00442	0,00251	0,00161
0,3	0,47575	0,05118	0,01451	0,00661	0,00375	0,00241
0,4	0,54074	0,06641	0,01919	0,00879	0,00500	0,00321
0,5	0,59044	0,08082	0,02379	0,01094	0,00623	0,00401
0,6	0,63015	0,09443	0,02831	0,01308	0,00746	0,00481
0,7	0,66290	0,10730	0,03276	0,01520	0,00868	0,00560
0,8	0,69056	0,11947	0,03712	0,01730	0,00990	0,00639
0,9	0,71436	0,13098	0,04140	0,01938	0,01111	0,00718
1,0	0,73514	0,14187	0,04560	0,02145	0,01232	0,00796
1,5	0,80989	0,18834	0,06538	0,03147	0,01824	0,01184
2,0	0,85698	0,22423	0,08319	0,04098	0,02399	0,01565
3,0	0,91298	0,27494	0,11336	0,05838	0,03487	0,02299
4,0	0,94448	0,30811	0,13730	0,07365	0,04490	0,02994
5,0	0,96418	0,33090	0,15627	0,08689	0,05405	0,03646
6,0	0,97742	0,34715	0,17136	0,09830	0,06233	0,04254
7,0	0,98678	0,35911	0,18345	0,10810	0,06978	0,04817
8,0	0,99369	0,36814	0,19320	0,11650	0,07645	0,05337
9,0	0,99895	0,37511	0,20115	0,12372	0,08241	0,05815
10,0	1,00307	0,38058	0,20769	0,12992	0,08772	0,06252
15,0	1,01473	0,39585	0,22744	0,15044	0,10680	0,07930
20,0	1,02003	0,40234	0,23663	0,16108	0,11778	0,08900
30,0	1,02486	0,40759	0,24445	0,17082	0,12867	0,10128

$Bi_0 = 0,3$

Bi_1	A_1	$-A_2$	A_3	$-A_4$	A_5	$-A_6$
40,0	1,02706	0,40962	0,24756	0,17488	0,13349	0,10664
50,0	1,02830	0,41061	0,24908	0,17692	0,13599	0,10951
60,0	1,02909	0,41117	0,24994	0,17809	0,13743	0,11120
80,0	1,03004	0,41175	0,25082	0,17929	0,13894	0,11299
100,0	1,03060	0,41203	0,25124	0,17986	0,13966	0,11386

$Bi_0 = 0,4$

Bi_1	μ_1	μ_2	μ_3	μ_4	μ_5	μ_6
0,0001	0,59334	3,26357	6,34615	9,46701	12,59811	15,73338
0,001	0,59419	3,26384	6,34628	9,46711	12,59818	15,73344
0,002	0,59514	3,26414	6,34644	9,46721	12,59827	15,73350
0,004	0,59702	3,26472	6,34676	9,46742	12,59843	15,73363
0,006	0,59888	3,26532	6,34706	9,46763	12,59858	15,73376
0,008	0,60075	3,26591	6,34737	9,46784	12,59874	15,73389
0,01	0,60261	3,26650	6,34769	9,46806	12,59890	15,73401
0,02	0,61176	3,26945	6,34925	9,46910	12,59969	15,73465
0,04	0,62951	3,27532	6,35236	9,47121	12,60127	15,73592
0,06	0,64656	3,28118	6,35548	9,47330	12,60286	15,73718
0,08	0,66297	3,28702	6,35859	9,47540	12,60444	15,73845
0,1	0,67878	3,29283	6,36169	9,47751	12,60602	15,73972
0,2	0,75030	3,32158	6,37717	9,48798	12,61392	15,74606
0,3	0,81180	3,34975	6,39257	9,49844	12,62181	15,75239
0,4	0,86569	3,37736	6,40787	9,50886	12,62969	15,75871
0,5	0,91352	3,40437	6,42306	9,51925	12,63755	15,76503
0,6	0,95641	3,43079	6,43816	9,52960	12,64540	15,77134
0,7	0,99518	3,45660	6,45314	9,53992	12,65324	15,77764
0,8	1,03044	3,48181	6,46801	9,55021	12,66105	15,78394
0,9	1,06270	3,50642	6,48275	9,56045	12,66885	15,79022
1,0	1,09233	3,53043	6,49738	9,57066	12,67664	15,79649
1,5	1,21077	3,64171	6,56851	9,62099	12,71524	15,82771
2,0	1,29549	3,73930	6,63611	9,67007	12,75327	15,85863
3,0	1,40854	3,89956	6,75996	9,76382	12,82729	15,91935
4,0	1,48028	4,02319	6,86869	9,85107	12,89809	15,97829
5,0	1,52968	4,11997	6,96330	9,93143	12,96528	16,03516
6,0	1,56567	4,19701	7,04533	10,00494	13,02863	16,08975
7,0	1,59304	4,25938	7,11648	10,07184	13,08805	16,14191
8,0	1,61452	4,31068	7,17833	10,13255	13,14355	16,19156
9,0	1,63182	4,35347	7,23230	10,18760	13,19526	16,23867
10,0	1,64604	4,38962	7,27962	10,23749	13,24332	16,28326
15,0	1,69084	4,50886	7,44683	10,42648	13,43645	16,47093
20,0	1,71449	4,57473	7,54614	10,54814	13,57046	16,60978
30,0	1,73898	4,64469	7,65630	10,69064	13,73687	16,79228
40,0	1,75156	4,68113	7,71523	10,76969	13,83311	16,90261
50,0	1,75920	4,70343	7,75172	10,81942	13,89488	16,97502
60,0	1,76435	4,71848	7,77648	10,85345	13,93761	17,02575
80,0	1,77082	4,73747	7,80788	10,89688	13,99258	17,09167
100,0	1,77474	4,74896	7,82693	10,92337	14,02632	17,13242

$Bi_0 = 0{,}4$

Bi_0	A_1	$-A_2$	A_3	$-A_4$	A_5	$-A_6$
0,0001	0,00026	0,00002	0,00000	0,00000	0,00000	0,00000
0,001	0,00264	0,00018	0,00005	0,00002	0,00001	0,00001
0,002	0,00526	0,00036	0,00010	0,00004	0,00002	0,00002
0,004	0,01044	0,00072	0,00020	0,00009	0,00005	0,00003
0,006	0,01556	0,00108	0,00029	0,00013	0,00008	0,00005
0,008	0,02061	0,00143	0,00039	0,00018	0,00010	0,00006
0,01	0,02560	0,00179	0,00049	0,00022	0,00013	0,00008
0,02	0,04961	0,00358	0,00098	0,00044	0,00025	0,00016
0,04	0,09345	0,00711	0,00196	0,00089	0,00050	0,00032
0,06	0,13231	0,01061	0,00293	0,00133	0,00075	0,00048
0,08	0,16758	0,01408	0,00390	0,00177	0,00100	0,00064
0,1	0,19926	0,01750	0,00487	0,00221	0,00125	0,00080
0,2	0,32141	0,03410	0,00967	0,00441	0,00250	0,00161
0,3	0,40555	0,04981	0,01439	0,00659	0,00375	0,00241
0,4	0,46800	0,06469	0,01904	0,00875	0,00498	0,00321
0,5	0,51678	0,07877	0,02361	0,01090	0,00622	0,00400

$Bi_0 = 0{,}4$

Bi_1	A_1	$-A_2$	A_3	$-A_4$	A_5	$-A_6$
0,6	0,55633	0,09211	0,02810	0,01303	0,00744	0,00480
0,7	0,58927	0,10473	0,03251	0,01515	0,00867	0,00559
0,8	0,61731	0,11667	0,03684	0,01724	0,00988	0,00638
0,9	0,64156	0,12799	0,04109	0,01932	0,01109	0,00717
1,0	0,66281	0,13871	0,04526	0,02137	0,01229	0,00795
1,5	0,73983	0,18456	0,06492	0,03136	0,01821	0,01183
2,0	0,78867	0,22012	0,08262	0,04084	0,02394	0,01563
3,0	0,84703	0,27053	0,11264	0,05819	0,03480	0,02296
4,0	0,88003	0,30361	0,13649	0,07342	0,04482	0,02990
5,0	0,90074	0,32639	0,15540	0,08663	0,05395	0,03641
6,0	0,91471	0,34266	0,17045	0,09802	0,06222	0,04249
7,0	0,92463	0,35464	0,18251	0,10780	0,06966	0,04812
8,0	0,93196	0,36370	0,19225	0,11619	0,07632	0,05331
9,0	0,93757	0,37069	0,20019	0,12339	0,08227	0,05808
10,0	0,94198	0,37619	0,20672	0,12958	0,08758	0,06245
15,0	0,95452	0,39155	0,22647	0,15009	0,10664	0,07922
20,0	0,96028	0,39809	0,23566	0,16073	0,11762	0,08982
30,0	0,96557	0,40340	0,24349	0,17046	0,12851	0,10119
40,0	0,96801	0,40546	0,24660	0,17453	0,13333	0,10655
50,0	0,96940	0,40647	0,24813	0,17657	0,13582	0,10942
60,0	0,97029	0,40705	0,24899	0,17774	0,13726	0,11111
80,0	0,97137	0,40764	0,24988	0,17894	0,13877	0,11290
100,0	0,97199	0,40793	0,25030	0,17951	0,13950	0,11377

$Bi_0 = 0{,}5$

Bi_1	μ_1	μ_2	μ_3	μ_4	μ_5	μ_6
0,0001	0,65336	3,29234	6,36163	9,47749	12,60602	15,73972
0,001	0,65416	3,29259	6,36177	9,47758	12,60609	15,73978
0,002	0,65503	3,29288	6,36193	9,47769	12,60617	15,73984
0,004	0,65678	3,29346	6,36224	9,47790	12,60632	15,73997
0,006	0,65853	3,29405	6,36255	9,47811	12,60648	15,74010
0,008	0,66026	3,29463	6,36286	9,47832	12,60664	15,74022
0,01	0,66199	3,29521	6,36317	9,47853	12,60680	15,74035
0,02	0,67054	3,29811	6,36472	9,47958	12,60759	15,74098
0,04	0,68717	3,30389	6,36782	9,48167	12,60917	15,74225
0,06	0,70321	3,30965	6,37092	9,48377	12,61076	15,74352
0,08	0,71870	3,31540	6,37402	9,48587	12,61234	15,74479
0,1	0,73367	3,32112	6,37711	9,48796	12,61391	15,74606
0,2	0,80193	3,34942	6,39252	9,49842	12,62180	15,75239
0,3	0,85122	3,37717	6,40784	9,50885	12,62968	15,75871
0,4	0,91352	3,40437	6,42306	9,51925	12,63755	15,76503
0,5	0,96019	3,43101	6,43819	9,52962	12,64541	15,77135
0,6	1,00222	3,45707	6,45322	9,53995	12,65324	15,77765
0,7	1,04032	3,48254	6,46813	9,55025	12,66107	15,78394
0,8	1,07507	3,50744	6,48293	9,56051	12,66888	15,79024
0,9	1,10693	3,53175	6,49762	9,57073	12,67667	15,79652
1,0	1,13625	3,55547	6,51218	9,58091	12,68444	15,80279
1,5	1,25394	3,66558	6,58302	9,63115	12,72300	15,83398
2,0	1,33851	3,76231	6,65035	9,68012	12,76099	15,86487
3,0	1,45178	3,92146	6,77378	9,77370	12,83492	15,92554
4,0	1,52386	4,04446	6,88219	9,86080	12,90564	15,98444
5,0	1,57356	4,14087	6,97656	9,94105	12,97277	16,04127
6,0	1,60982	4,21768	7,05843	10,01444	13,03606	16,09582
7,0	1,63739	4,27991	7,12943	10,08126	13,09542	16,14796
8,0	1,65904	4,33111	7,19119	10,14191	13,15089	16,19758
9,0	1,67648	4,37383	7,24509	10,19690	13,20255	16,24466
10,0	1,69082	4,40994	7,29236	10,24674	13,25057	16,28922
15,0	1,73600	4,52910	7,45943	10,43561	13,44360	16,47681
20,0	1,75985	4,59495	7,55869	10,55721	13,57756	16,61561
30,0	1,78456	4,66490	7,66882	10,69968	13,74393	16,79807
40,0	1,79724	4,70134	7,72774	10,77871	13,81016	16,90839
50,0	1,80496	4,72365	7,76423	10,82844	13,90192	16,98080
60,0	1,81014	4,73839	7,78899	10,86246	13,94465	17,03152
80,0	1,81667	4,75769	7,82038	10,90590	13,99962	17,09744
100,0	1,82062	4,76919	7,83944	10,93238	14,03336	17,13819

$Bi_0 = 0{,}5$

Bi_1	A_1	$-A_2$	A_3	$-A_4$	A_5	$-A_6$
0,0001	0,00021	0,00002	0,00000	0,00000	0,00000	0,00000
0,001	0,00213	0,00017	0,00005	0,00002	0,00001	0,00001
0,002	0,00426	0,00035	0,00010	0,00004	0,00002	0,00002
0,004	0,00847	0,00070	0,00019	0,00009	0,00005	0,00003
0,006	0,01263	0,00105	0,00029	0,00013	0,00008	0,00005
0,008	0,01674	0,00139	0,00039	0,00018	0,00010	0,00006
0,01	0,02082	0,00174	0,00049	0,00022	0,00012	0,00008
0,02	0,04052	0,00347	0,00097	0,00044	0,00025	0,00016
0,04	0,07697	0,00691	0,00194	0,00088	0,00050	0,00032
0,06	0,10996	0,01031	0,00291	0,00132	0,00075	0,00048
0,08	0,13999	0,01368	0,00387	0,00176	0,00100	0,00064
0,1	0,16746	0,01701	0,00483	0,00220	0,00125	0,00080
0,2	0,27643	0,03317	0,00959	0,00439	0,00250	0,00160
0,3	0,35426	0,04849	0,01428	0,00656	0,00374	0,00241
0,4	0,41343	0,06302	0,01888	0,00872	0,00497	0,00320
0,5	0,46041	0,07679	0,02342	0,01086	0,00620	0,00400
0,6	0,49895	0,08985	0,02787	0,01298	0,00743	0,00479
0,7	0,53135	0,10222	0,03225	0,01509	0,00865	0,00558
0,8	0,55909	0,11395	0,03655	0,01718	0,00986	0,00637
0,9	0,58322	0,12507	0,04077	0,01924	0,01107	0,00716
1,0	0,60445	0,13561	0,04491	0,02129	0,01227	0,00794
1,5	0,68196	0,18784	0,06444	0,03125	0,01817	0,01181
2,0	0,73151	0,21604	0,08204	0,04070	0,02389	0,01561
3,0	0,79105	0,26613	0,11191	0,05800	0,03473	0,02293
4,0	0,82490	0,29912	0,13566	0,07318	0,04473	0,02986
5,0	0,84624	0,32187	0,15450	0,08636	0,05385	0,03637
6,0	0,86068	0,33815	0,16951	0,09772	0,06211	0,04244
7,0	0,87096	0,35015	0,18155	0,10749	0,06953	0,04816
8,0	0,87858	0,35923	0,19127	0,11587	0,07619	0,05325
9,0	0,88442	0,36624	0,19920	0,12306	0,08213	0,05801
10,0	0,88902	0,37176	0,20572	0,12924	0,08744	0,06238
15,0	0,90217	0,38720	0,22546	0,14973	0,10648	0,07914
20,0	0,90825	0,39381	0,23466	0,16036	0,11745	0,08973
30,0	0,91387	0,39917	0,24250	0,17010	0,12833	0,10109
40,0	0,91648	0,40126	0,24561	0,17416	0,13315	0,10646
50,0	0,91797	0,40229	0,24715	0,17621	0,13565	0,10933
60,0	0,91893	0,40288	0,24811	0,17737	0,13709	0,11101
80,0	0,92010	0,40349	0,24893	0,17858	0,13850	0,11280
100,0	0,92077	0,40379	0,24933	0,17915	0,13932	0,11367

$Bi_0 = 0{,}6$

Bi_1	μ_1	μ_2	μ_3	μ_4	μ_5	μ_6
0,0001	0,70515	3,32039	6,37701	9,48794	12,61391	15,74606
0,001	0,70591	3,32065	6,37715	9,48813	12,61398	15,74611
0,002	0,70673	3,32094	6,37731	9,48814	12,61415	15,74617
0,004	0,70839	3,32151	6,37761	9,48835	12,61421	15,74630
0,006	0,71005	3,32207	6,37792	9,48856	12,61437	15,74643
0,008	0,71169	3,32265	6,37823	9,48877	12,61453	15,74655
0,01	0,71334	3,32322	6,37854	9,48898	12,61468	15,74668
0,02	0,72146	3,32607	6,38008	9,49002	12,61548	15,74731
0,04	0,73729	3,33177	6,38317	9,49211	12,61706	15,74858
0,06	0,75261	3,33744	6,38625	9,49421	12,61864	15,74985
0,08	0,76743	3,34309	6,38934	9,49630	12,62022	15,75111
0,1	0,78180	3,34873	6,39241	9,49839	12,62179	15,75238
0,2	0,84767	3,37661	6,40774	9,50882	12,62967	15,75870
0,3	0,90539	3,40397	6,42300	9,51923	12,63754	15,76503
0,4	0,95641	3,43079	6,43816	9,52960	12,64540	15,77134
0,5	1,00222	3,45707	6,45322	9,53995	12,65324	15,77765
0,6	1,04358	3,48279	6,46818	9,55026	12,66107	15,78393
0,7	1,08120	3,50795	6,48302	9,56054	12,66889	15,79024
0,8	1,11558	3,53254	6,49776	9,57078	12,67669	15,79652
0,9	1,14716	3,55656	6,51238	9,58098	12,68447	15,80280
1,0	1,17627	3,58002	6,52688	9,59114	12,69223	15,80907
1,5	1,29351	3,68902	6,59743	9,64127	12,73074	15,84023
2,0	1,37809	3,78492	6,66451	9,69015	12,76869	15,87110

$Bi_0 = 0{,}6$

Bi_1	μ_1	μ_2	μ_3	μ_4	μ_5	μ_6
3,0	1,49176	3,94300	6,78752	9,78356	12,84254	15,93172
4,0	1,56428	4,06541	6,89561	9,87051	12,91318	15,99058
5,0	1,61434	4,16145	6,98975	9,95063	12,98024	16,04738
6,0	1,65089	4,23805	7,07144	10,02393	13,04347	16,10189
7,0	1,67870	4,30015	7,14233	10,09066	13,10279	16,15399
8,0	1,70054	4,35126	7,20398	10,15124	13,15820	16,20358
9,0	1,71814	4,39392	7,25781	10,20618	13,20983	16,25064
10,0	1,73262	4,42999	7,30502	10,25597	13,25782	16,29518
15,0	1,77822	4,54906	7,47195	10,44470	13,45074	16,48268
20,0	1,80229	4,61490	7,57117	10,56625	13,58465	16,62144
30,0	1,82724	4,68185	7,68127	10,70838	13,75098	16,80385
40,0	1,84004	4,72130	7,74020	10,78770	13,84720	16,91416
50,0	1,84783	4,74361	7,77668	10,83743	13,90835	16,98556
60,0	1,85306	4,75867	7,80144	10,87146	13,95168	17,03728
80,0	1,85966	4,77766	7,83283	10,91489	14,00664	17,10320
100,0	1,86364	4,78916	7,85188	10,94138	14,04038	17,14395

$Bi_0 = 0{,}6$

Bi_1	A_1	$-A_2$	A_3	$-A_4$	A_5	$-A_6$
0,0001	0,00018	0,00002	0,00000	0,00000	0,00000	0,00000
0,001	0,00180	0,00017	0,00005	0,00002	0,00001	0,00001
0,002	0,00359	0,00034	0,00010	0,00004	0,00002	0,00002
0,004	0,00714	0,00068	0,00019	0,00009	0,00005	0,00003
0,006	0,01065	0,00102	0,00029	0,00013	0,00008	0,00005
0,008	0,01414	0,00135	0,00039	0,00018	0,00010	0,00006
0,01	0,01759	0,00169	0,00048	0,00022	0,00012	0,00008
0,02	0,03434	0,00337	0,00096	0,00044	0,00025	0,00016
0,04	0,06560	0,00672	0,00192	0,00088	0,00050	0,00032
0,06	0,09420	0,01002	0,00288	0,00132	0,00075	0,00048
0,08	0,12049	0,01333	0,00384	0,00176	0,00100	0,00064
0,1	0,14476	0,01654	0,00479	0,00220	0,00125	0,00081
0,2	0,24299	0,03227	0,00951	0,00438	0,00249	0,00160
0,3	0,31508	0,04721	0,01416	0,00654	0,00373	0,00240
0,4	0,37088	0,06141	0,01873	0,00869	0,01496	0,00321
0,5	0,41579	0,07487	0,02323	0,01082	0,00619	0,00399
0,6	0,45299	0,08765	0,02765	0,01294	0,00741	0,00479
0,7	0,48449	0,09978	0,03200	0,01503	0,00863	0,00558
0,8	0,51162	0,11129	0,03626	0,01711	0,00984	0,00636
0,9	0,53532	0,12222	0,04045	0,01917	0,01104	0,00715
1,0	0,55626	0,13259	0,04457	0,02122	0,01224	0,00793
1,5	0,63324	0,17719	0,06396	0,03114	0,01813	0,01180
2,0	0,68284	0,21202	0,08145	0,04055	0,02384	0,01558
3,0	0,74284	0,26177	0,11116	0,05780	0,03466	0,02290
4,0	0,77713	0,29453	0,13481	0,07294	0,04464	0,02982
5,0	0,79893	0,31735	0,15359	0,08539	0,05374	0,03632
6,0	0,81355	0,33363	0,16855	0,09743	0,06199	0,04238
7,0	0,82405	0,34564	0,18157	0,10717	0,06941	0,04810
8,0	0,83187	0,35474	0,19127	0,11553	0,07615	0,05318
9,0	0,83785	0,36177	0,19819	0,12271	0,08199	0,05794
10,0	0,84258	0,36731	0,20471	0,12889	0,08729	0,06231
15,0	0,85615	0,38283	0,22443	0,14936	0,10631	0,07905
20,0	0,86245	0,38948	0,23363	0,15998	0,11728	0,08963
30,0	0,86831	0,39491	0,24148	0,16972	0,12815	0,10100
40,0	0,87104	0,39703	0,24469	0,17378	0,13297	0,10636
50,0	0,87260	0,39818	0,24614	0,17583	0,13547	0,10923
60,0	0,87361	0,39868	0,24700	0,17699	0,13691	0,11092
80,0	0,87484	0,39931	0,24791	0,17821	0,13842	0,11270
100,0	0,87555	0,39962	0,24832	0,17878	0,13915	0,11358

$Bi_0 = 0{,}7$

Bi_1	μ_1	μ_2	μ_3	μ_4	μ_5	μ_6
0,0001	0,75064	3,34775	6,39227	9,49835	12,62178	15,75237
0,001	0,75136	3,34810	6,39241	9,49844	12,62185	15,75243
0,002	0,75216	3,34828	6,39256	9,49855	12,62192	15,75249
0,004	0,75375	3,34885	6,39287	9,49876	12,62209	15,75262

$Bi_0 = 0{,}7$

Bi_1	μ_1	μ_2	μ_3	μ_4	μ_5	μ_6
0,006	0,75534	3,34940	6,39318	9,49896	12,62225	15,75275
0,008	0,75692	3,34997	6,39349	9,49918	12,62240	15,75288
0,01	0,75850	3,35053	6,39379	9,49938	12,62256	15,75300
0,02	0,76631	3,35335	6,39533	9,50043	12,62334	15,75363
0,04	0,78155	3,35896	6,39840	9,50252	12,62492	15,75490
0,06	0,79633	3,36455	6,40147	9,50460	12,62650	15,75616
0,08	0,81065	3,37012	6,40454	9,50669	12,62807	15,75743
0,1	0,82457	3,37567	6,40760	9,50877	12,62965	15,75870
0,2	0,88861	3,40315	6,42287	9,51919	12,63753	15,76501
0,3	0,94497	3,43014	6,43805	9,52957	12,64539	15,77133
0,4	0,99518	3,45660	6,45314	9,53992	12,65324	15,77764
0,5	1,04032	3,48254	6,46813	9,55025	12,66107	15,78394
0,6	1,08120	3,50795	6,48302	9,56054	12,66889	15,79024
0,7	1,11845	3,53281	6,49781	9,57079	12,67670	15,79653
0,8	1,15256	3,55711	6,51248	9,58101	12,68448	15,80281
0,9	1,18394	3,58087	6,52705	9,59119	12,69225	15,80907
1,0	1,21292	3,60408	6,54148	9,60133	12,70000	15,81534
1,5	1,32993	3,71201	6,61176	9,65136	12,73848	15,84648
2,0	1,41467	3,80713	6,67858	9,70015	12,77638	15,87733
3,0	1,52886	3,96419	6,80117	9,79338	12,85014	15,93790
4,0	1,60187	4,08602	6,90896	9,88019	12,92072	15,99672
5,0	1,65235	4,18172	7,00287	9,96018	12,98770	16,05247
6,0	1,68922	4,25812	7,08438	10,03338	13,05087	16,10796
7,0	1,71728	4,32008	7,15514	10,10003	13,11014	16,16002
8,0	1,73934	4,37111	7,21670	10,16054	13,16551	16,20958
9,0	1,75710	4,41372	7,27046	10,21542	13,21709	16,25661
10,0	1,77172	4,44975	7,31762	10,26517	13,26505	16,30113
15,0	1,81779	4,56876	7,48442	10,45377	13,45787	16,48855
20,0	1,84210	4,63458	7,58359	10,57527	13,59173	16,62726
30,0	1,86730	4,70454	7,69366	10,71767	13,75802	16,80964
40,0	1,88022	4,74100	7,75259	10,79668	13,85422	16,91993
50,0	1,88809	4,76332	7,78907	10,84640	13,91597	16,99232
60,0	1,89338	4,77837	7,81382	10,88042	13,95869	17,04304
80,0	1,90004	4,79738	7,84521	10,92385	14,01266	17,10896
100,0	1,90406	4,80888	7,86427	10,95034	14,04739	17,14970

$Bi_0 = 0{,}7$

Bi_1	A_1	$-A_2$	A_3	$-A_4$	A_5	$-A_6$
0,0001	0,00016	0,00002	0,00000	0,00000	0,00000	0,00000
0,001	0,00156	0,00016	0,00005	0,00002	0,00001	0,00001
0,002	0,00311	0,00033	0,00010	0,00004	0,00002	0,00002
0,004	0,00618	0,00066	0,00019	0,00009	0,00005	0,00003
0,006	0,00923	0,00099	0,00029	0,00013	0,00007	0,00005
0,008	0,01226	0,00132	0,00038	0,00018	0,00010	0,00006
0,01	0,01526	0,00164	0,00048	0,00022	0,00012	0,00008
0,02	0,02986	0,00328	0,00096	0,00044	0,00025	0,00016
0,04	0,05727	0,00653	0,00191	0,00088	0,00050	0,00032
0,06	0,08255	0,00975	0,00286	0,00131	0,00075	0,00048
0,08	0,10596	0,01293	0,00381	0,00175	0,00100	0,00064
0,1	0,12770	0,01609	0,00475	0,00219	0,00125	0,00080
0,2	0,21711	0,03141	0,00943	0,00436	0,00249	0,00160
0,3	0,28410	0,04568	0,01404	0,00651	0,00372	0,00240
0,4	0,33673	0,05884	0,01858	0,00865	0,00495	0,00320
0,5	0,37953	0,07301	0,02304	0,01078	0,00618	0,00399
0,6	0,41527	0,08553	0,02742	0,01288	0,00740	0,00478
0,7	0,44573	0,09742	0,03174	0,01497	0,00861	0,00557
0,8	0,47210	0,10871	0,03597	0,01705	0,00982	0,00635
0,9	0,49523	0,11945	0,04013	0,01910	0,01102	0,00714
1,0	0,51572	0,12964	0,04421	0,02114	0,01221	0,00792
1,5	0,59159	0,17360	0,06348	0,03102	0,01809	0,01178
2,0	0,64086	0,20856	0,08086	0,04040	0,02379	0,01556
3,0	0,70080	0,25744	0,11041	0,05760	0,03459	0,02287
4,0	0,73525	0,29017	0,13395	0,07269	0,04455	0,02978
5,0	0,75713	0,31284	0,15266	0,08581	0,05364	0,03627

$Bi_0 = 0{,}7$

Bi_1	A_1	$-A_2$	A_3	$-A_4$	A_5	A_6
6,0	0,77201	0,32911	0,16759	0,09712	0,06187	0,04232
7,0	0,78265	0,34113	0,17957	0,10684	0,06927	0,04794
8,0	0,79058	0,35024	0,18925	0,11519	0,07591	0,05311
9,0	0,79667	0,35729	0,19716	0,12236	0,08184	0,05787
10,0	0,80147	0,36285	0,20366	0,12853	0,08713	0,06223
15,0	0,81531	0,37844	0,22338	0,14897	0,10614	0,07896
20,0	0,82176	0,38514	0,23258	0,15959	0,11710	0,08954
30,0	0,82778	0,39062	0,24043	0,16932	0,12797	0,10090
40,0	0,83060	0,39277	0,24356	0,17339	0,13279	0,10626
50,0	0,83222	0,39384	0,24510	0,17544	0,13528	0,10912
60,0	0,83326	0,39445	0,24597	0,17660	0,13673	0,11081
80,0	0,83453	0,39510	0,24687	0,17781	0,13823	0,11260
100,0	0,83527	0,39542	0,24730	0,17839	0,13896	0,11347

$Bi_0 = 0{,}8$

Bi_1	μ_1	μ_2	μ_3	μ_4	μ_5	μ_6
0,0001	0,79111	3,37440	6,40741	9,50872	12,62963	15,75869
0,001	0,79181	3,37465	6,40755	9,50881	12,62971	15,75874
0,002	0,79258	3,37493	6,40770	9,50892	12,62978	15,75880
0,004	0,79412	3,37548	6,40800	9,50912	12,62994	15,75893
0,006	0,79566	3,37604	6,40831	9,50934	12,63010	15,75906
0,008	0,79719	3,37659	6,40862	9,50954	12,63026	15,75919
0,01	0,79872	3,37715	6,40893	9,50975	12,63042	15,75932
0,02	0,80629	3,37992	6,41045	9,51080	12,63120	15,75995
0,04	0,82108	3,38545	6,41351	9,51288	12,63277	15,76121
0,06	0,83544	3,39097	6,41657	9,51496	12,63435	15,76247
0,08	0,84938	3,39646	6,41962	9,51704	12,63592	15,76374
0,1	0,86294	3,40194	6,42267	9,51913	12,63750	15,76501
0,2	0,92557	3,42905	6,43787	9,52951	12,64536	15,77132
0,3	0,98194	3,45568	6,45298	9,53987	12,65321	15,77763
0,4	1,03044	3,48181	6,46801	9,55021	12,66105	15,78394
0,5	1,07597	3,50744	6,48293	9,56051	12,66888	15,79024
0,6	1,11558	3,53254	6,49776	9,57078	12,67669	15,79652
0,7	1,15256	3,55711	6,51248	9,58101	12,68448	15,80281
0,8	1,18549	3,58115	6,52710	9,59121	12,69226	15,80908
0,9	1,21773	3,60466	6,54160	9,60136	12,70002	15,81535
1,0	1,24661	3,62762	6,55598	9,61149	12,70777	15,82160
1,5	1,36358	3,73455	6,62597	9,66142	12,74619	15,85272
2,0	1,44855	3,82892	6,69254	9,71011	12,78195	15,88354
3,0	1,56337	3,98501	6,81474	9,80318	12,85773	15,94408
4,0	1,63694	4,10628	6,92221	9,88983	12,92823	16,00285
5,0	1,68785	4,20168	7,01589	9,96971	12,99515	16,05956
6,0	1,72507	4,27788	7,09724	10,04281	13,05827	16,11401
7,0	1,75341	4,33971	7,16788	10,10937	13,11748	16,16604
8,0	1,77568	4,39066	7,22935	10,16982	13,17283	16,21557
9,0	1,79363	4,43323	7,28304	10,22464	13,22435	16,26257
10,0	1,80839	4,46922	7,33015	10,27434	13,27228	16,30707
15,0	1,85494	4,58817	7,49681	10,46282	13,46498	16,49441
20,0	1,87952	4,65398	7,59594	10,58427	13,59878	16,63307
30,0	1,90497	4,72396	7,70599	10,72662	13,76504	16,81541
40,0	1,91804	4,76043	7,76491	10,80563	13,86124	16,92569
50,0	1,92599	4,78275	7,80138	10,85535	13,92298	16,99808
60,0	1,93133	4,79781	7,82614	10,88937	13,96569	17,04880
80,0	1,93806	4,81683	7,85754	10,93279	14,02166	17,11471
100,0	1,94212	4,82834	7,87659	10,95928	14,05440	17,15546

$Bi_0 = 0{,}8$

Bi_1	A_1	$-A_2$	A_3	$-A_4$	A_5	$-A_6$
0,0001	0,00014	0,00002	0,00000	0,00000	0,00000	0,00000
0,001	0,00137	0,00016	0,00005	0,00002	0,00001	0,00001
0,002	0,00274	0,00032	0,00009	0,00004	0,00002	0,00002
0,004	0,00546	0,00064	0,00019	0,00009	0,00005	0,00003
0,006	0,00816	0,00096	0,00028	0,00013	0,00007	0,00005
0,008	0,01084	0,00128	0,00038	0,00017	0,00010	0,00006
0,01	0,01349	0,00160	0,00047	0,00022	0,00012	0,00008
0,02	0,02645	0,00319	0,00095	0,00044	0,00025	0,00016

$Bi_0 = 0{,}8$

Bi_1	A_1	$-A_2$	A_3	$-A_4$	A_5	$-A_6$
0,04	0,05090	0,00635	0,00189	0,00087	0,00050	0,00032
0,06	0,07358	0,00918	0,00283	0,00131	0,00075	0,00048
0,08	0,09469	0,01258	0,00377	0,00174	0,00099	0,00064
0,1	0,11440	0,01565	0,00471	0,00218	0,00124	0,00080
0,2	0,19646	0,02658	0,00935	0,00434	0,00248	0,00160
0,3	0,25896	0,01480	0,01392	0,00649	0,00371	0,00240
0,4	0,30865	0,05834	0,01842	0,00862	0,00494	0,00319
0,5	0,34943	0,07122	0,02284	0,01074	0,00616	0,00398
0,6	0,38372	0,08347	0,02720	0,01283	0,00738	0,00477
0,7	0,41309	0,09512	0,03148	0,01492	0,00859	0,00556
0,8	0,43863	0,10621	0,03568	0,01698	0,00980	0,00634
0,9	0,46111	0,11675	0,03981	0,01902	0,01099	0,00713
1,0	0,48109	0,12677	0,04386	0,02105	0,01219	0,00791
1,5	0,55551	0,17009	0,06299	0,03090	0,01805	0,01176
2,0	0,60418	0,20116	0,08026	0,04025	0,02373	0,01554
3,0	0,66376	0,25316	0,10964	0,05739	0,03451	0,02283
4,0	0,69817	0,28574	0,13308	0,07244	0,04446	0,02974
5,0	0,72010	0,30835	0,15172	0,08552	0,05353	0,03622
6,0	0,73505	0,32461	0,16660	0,09681	0,06174	0,04227
7,0	0,74576	0,33663	0,17875	0,10651	0,06914	0,04787
8,0	0,75375	0,34575	0,18821	0,11484	0,07577	0,05304
9,0	0,75990	0,35282	0,19610	0,12200	0,08169	0,05780
10,0	0,76475	0,35839	0,20260	0,12816	0,08697	0,06215
15,0	0,77876	0,37405	0,22230	0,14858	0,10596	0,07887
20,0	0,78532	0,38078	0,23150	0,15919	0,11691	0,08944
30,0	0,79145	0,38632	0,23936	0,16892	0,12778	0,10079
40,0	0,79432	0,38850	0,24249	0,17299	0,13260	0,10615
50,0	0,79598	0,38959	0,24404	0,17503	0,13509	0,10902
60,0	0,79705	0,39021	0,24491	0,17620	0,13653	0,11071
80,0	0,79835	0,39088	0,24582	0,17741	0,13804	0,11250
100,0	0,79911	0,39121	0,24625	0,17799	0,13877	0,11337

$Bi_0 = 0{,}9$

B_1	μ_1	μ_2	μ_3	μ_4	μ_5	μ_6
0,0001	0,82748	3,40036	6,42242	9,51905	12,63747	15,76499
0,001	0,82816	3,40061	6,42256	9,51914	12,63754	15,76505
0,002	0,82891	3,40089	6,42271	9,51925	12,63762	15,76511
0,004	0,83041	3,40143	6,42302	9,51945	12,63778	15,76524
0,006	0,83191	3,40198	6,42332	9,51967	12,63794	15,76537
0,008	0,83340	3,40253	6,42363	9,51987	12,63809	15,76550
0,01	0,83489	3,40308	6,42393	9,52008	12,63825	15,76562
0,02	0,84227	3,40581	6,42545	9,52112	12,63904	15,76625
0,04	0,85670	3,41127	6,42850	9,52320	12,64061	15,76752
0,06	0,87073	3,41671	6,43154	9,52528	12,64218	15,76878
0,08	0,88438	3,42213	6,43458	9,52736	12,64375	15,77004
0,1	0,89765	3,42754	6,43761	9,52943	12,64532	15,77130
0,2	0,95916	3,45430	6,45275	9,53980	12,65318	15,77762
0,3	1,01375	3,48060	6,46780	9,55014	12,66102	15,78392
0,4	1,06270	3,50642	6,48275	9,56045	12,66885	15,79022
0,5	1,10693	3,53175	6,49762	9,57073	12,67667	15,79652
0,6	1,14716	3,55656	6,51238	9,58098	12,68447	15,80280
0,7	1,18394	3,58087	6,52705	9,59119	12,69225	15,80907
0,8	1,21773	3,60466	6,54160	9,60136	12,70002	15,81533
0,9	1,24890	3,62792	6,55603	9,61150	12,70778	15,82160
1,0	1,27773	3,65066	6,57035	9,62160	12,71551	15,82786
1,5	1,39478	3,75663	6,64008	9,67143	12,75389	15,85896
2,0	1,48005	3,85030	6,70641	9,72003	12,79170	15,88975
3,0	1,59557	4,00546	6,82820	9,81293	12,86530	15,95024
4,0	1,66973	4,12621	6,93538	9,89041	12,93572	16,00896
5,0	1,72110	4,22129	7,02884	9,97020	13,00258	16,06564
6,0	1,75868	4,29731	7,11002	10,03219	13,06564	16,12046
7,0	1,78730	4,35903	7,18053	10,11868	13,12479	16,17215
8,0	1,80980	4,40991	7,24192	10,17906	13,18008	16,22153
9,0	1,82794	4,45242	7,29554	10,23383	13,23159	16,26853
10,0	1,84286	4,48839	7,34259	10,28349	13,27948	16,31300

$Bi_0 = 0{,}9$

Bi_1	μ_1	μ_2	μ_3	μ_4	μ_5	μ_6
15,0	1,88990	4,60729	7,50912	10,47184	13,47208	16,50026
20,0	1,91475	4,67311	7,60822	10,59323	13,60583	16,63888
30,0	1,94048	4,74310	7,71825	10,73556	13,77205	16,82118
40,0	1,95369	4,77958	7,77715	10,81455	13,86823	16,93144
50,0	1,96172	4,80192	7,81364	10,86426	13,92997	17,00383
60,0	1,96712	4,81699	7,83839	10,89828	13,97269	17,05454
80,0	1,97392	4,83601	7,86979	10,94171	14,02766	17,12045
100,0	1,97803	4,84752	7,88885	10,96820	14,06139	17,16119

$Bi_0 = 0{,}9$

Bi_1	A_1	$-A_2$	A_3	$-A_4$	A_5	$-A_6$
0,0001	0,00012	0,00002	0,00000	0,00000	0,00000	0,00000
0,001	0,00123	0,00016	0,00005	0,00002	0,00001	0,00001
0,002	0,00246	0,00031	0,00009	0,00004	0,00002	0,00002
0,004	0,00490	0,00062	0,00019	0,00009	0,00005	0,00003
0,006	0,00732	0,00093	0,00028	0,00013	0,00007	0,00005
0,008	0,00972	0,00124	0,00038	0,00017	0,00010	0,00006
0,01	0,01211	0,00156	0,00047	0,00022	0,00012	0,00008
0,02	0,02377	0,00310	0,00094	0,00043	0,00025	0,00016
0,04	0,04585	0,00618	0,00188	0,00087	0,00050	0,00032
0,06	0,06643	0,00923	0,00281	0,00130	0,00074	0,00048
0,08	0,08568	0,01225	0,00374	0,00174	0,00099	0,00064
0,1	0,10372	0,01524	0,00467	0,00217	0,00124	0,00080
0,2	0,17956	0,02978	0,00927	0,00432	0,00247	0,00160
0,3	0,23812	0,04366	0,01380	0,00646	0,00370	0,00239
0,4	0,28514	0,05688	0,01826	0,00858	0,00493	0,00319
0,5	0,32401	0,06948	0,02265	0,01069	0,00615	0,00398
0,6	0,35688	0,08148	0,02697	0,01278	0,00736	0,00476
0,7	0,38518	0,09290	0,03121	0,01486	0,00857	0,00555
0,8	0,40987	0,10378	0,03538	0,01691	0,00977	0,00634
0,9	0,43168	0,11413	0,03948	0,01895	0,01097	0,00712
1,0	0,45112	0,12398	0,04350	0,02097	0,01216	0,00789
1,5	0,52391	0,16666	0,06249	0,03078	0,01801	0,01174
2,0	0,57184	0,20034	0,07965	0,04010	0,02368	0,01552
3,0	0,63082	0,24893	0,10887	0,05718	0,03444	0,02280
4,0	0,66506	0,28135	0,13220	0,07219	0,04436	0,02970
5,0	0,68695	0,30390	0,15077	0,08523	0,05342	0,03617
6,0	0,70190	0,32013	0,16560	0,09649	0,06162	0,04221
7,0	0,71264	0,33215	0,17751	0,10617	0,06900	0,04781
8,0	0,72065	0,34127	0,18716	0,11449	0,07562	0,05297
9,0	0,72683	0,34835	0,19503	0,12163	0,08153	0,05772
10,0	0,73171	0,35393	0,20152	0,12778	0,08581	0,06207
15,0	0,74582	0,36965	0,22120	0,14818	0,10578	0,07878
20,0	0,75244	0,37643	0,23040	0,15878	0,11672	0,08934
30,0	0,75864	0,38202	0,23826	0,16850	0,12758	0,10069
40,0	0,76156	0,38423	0,24140	0,17257	0,13240	0,10605
50,0	0,76324	0,38533	0,24295	0,17462	0,13489	0,10891
60,0	0,76432	0,38597	0,24383	0,17579	0,13634	0,11060
80,0	0,76565	0,38665	0,24474	0,17700	0,13784	0,11239
100,0	0,76642	0,38698	0,24517	0,17758	0,13857	0,11326

$Bi_0 = 1{,}0$

Bi_1	μ_1	μ_2	μ_3	μ_4	μ_5	μ_6
0,0001	0,83041	3,42564	6,43731	9,52934	12,64529	15,77129
0,001	0,86107	3,42589	6,43745	9,52943	12,64536	15,77135
0,002	0,86181	3,42616	6,43760	9,52954	12,64544	15,77141
0,004	0,86328	3,42670	6,43790	9,52975	12,64560	15,77153
0,006	0,86475	3,42724	6,43820	9,52995	12,64575	15,77166
0,008	0,86621	3,42778	6,43851	9,53016	12,64591	15,77179
0,01	0,86766	3,42832	6,43881	9,53036	12,64607	15,77191
0,02	0,87489	3,43102	6,44033	9,53140	12,64686	15,77254
0,04	0,88904	3,43641	6,44336	9,53348	12,64843	15,77380
0,06	0,90280	3,44178	6,44639	9,53555	12,64999	15,77507
0,08	0,91620	3,44714	6,44941	9,53763	12,65157	15,77633
0,1	0,92925	3,45248	6,45214	9,53970	12,65314	15,77760

$Bi_0 = 1{,}0$

Bi_1	μ_1	μ_2	μ_3	μ_4	μ_5	μ_6
0,2	0,98986	3,47891	6,46750	9,55004	12,66008	15,78390
0,3	1,04382	3,50491	6,48248	9,56030	12,66882	15,79020
0,4	1,09233	3,53043	6,49738	9,57067	12,67664	15,79619
0,5	1,13625	3,55547	6,51218	9,58091	12,68144	15,80279
0,6	1,17627	3,58002	6,52688	9,59114	12,69223	15,80907
0,7	1,21292	3,60408	6,54148	9,60133	12,70000	15,81534
0,8	1,24661	3,62762	6,55598	9,61119	12,70777	15,82160
0,9	1,27773	3,65066	6,57035	9,62160	12,71551	15,82786
1,0	1,30654	3,67319	6,58462	9,63168	12,72324	15,83410
1,5	1,42377	3,77825	6,65407	9,68141	12,76157	15,86517
2,0	1,50941	3,87124	6,72017	9,72992	12,79934	15,89594
3,0	1,62567	4,02553	6,81157	9,82265	12,87286	15,95639
4,0	1,70045	4,14578	6,94816	9,90902	12,94321	16,01508
5,0	1,75229	4,21057	7,04169	9,98866	13,00999	16,07172
6,0	1,79025	4,31641	7,12272	10,06155	13,07299	16,12609
7,0	1,81916	4,37804	7,19311	10,12796	13,13210	16,17805

8,0	1,84189	4,42885	7,25440	10,18827	13,18734	16,22753
9,0	1,86023	4,47131	7,30796	10,24299	13,23882	16,27448
10,0	1,87531	4,50726	7,35496	10,29261	13,28667	16,31893
15,0	1,92287	4,62612	7,52137	10,48083	13,47917	16,50610
20,0	1,94798	4,69194	7,62042	10,60217	13,61288	16,64468
30,0	1,97400	4,76196	7,73043	10,74446	13,77904	16,82694
40,0	1,98735	4,79845	7,78934	10,82344	13,87521	16,93719
50,0	1,99546	4,82080	7,82581	10,87315	13,93695	17,00957
60,0	2,00093	4,83588	7,85057	10,90717	13,97966	17,06028
80,0	2,00780	4,85491	7,88197	10,95060	14,03463	17,12618
100,0	2,01195	4,86642	7,90102	10,97709	14,06836	17,16693

$Bi_0 = 1,0$

Bi_1	A_1	$-A_2$	A_3	$-A_4$	A_5	$-A_6$
0,0001	0,00011	0,00002	0,00000	0,00000	0,00000	0,00000
0,001	0,00112	0,00015	0,00005	0,00002	0,00001	0,00001
0,002	0,00223	0,00030	0,00009	0,00004	0,00002	0,00002
0,004	0,00444	0,00061	0,00019	0,00009	0,00005	0,00003
0,006	0,00664	0,00091	0,00028	0,00013	0,00007	0,00005
0,008	0,00882	0,00121	0,00037	0,00017	0,00010	0,00006
0,01	0,01099	0,00151	0,00047	0,00022	0,00012	0,00008
0,02	0,02160	0,00302	0,00093	0,00043	0,00025	0,00016
0,04	0,04175	0,00601	0,00186	0,00087	0,00050	0,00032
0,06	0,06061	0,00898	0,00278	0,00130	0,00074	0,00048
0,08	0,07830	0,01192	0,00371	0,00173	0,00099	0,00064
0,1	0,09494	0,01484	0,00463	0,00216	0,00124	0,00080
0,2	0,16547	0,02902	0,00919	0,00430	0,00247	0,00159
0,3	0,22054	0,04256	0,01368	0,00643	0,00370	0,00239
0,4	0,26512	0,05548	0,01810	0,00855	0,00492	0,00318
0,5	0,30222	0,06781	0,02246	0,01065	0,00613	0,00397
0,6	0,33376	0,07955	0,02674	0,01273	0,00734	0,00476
0,7	0,36101	0,09075	0,03095	0,01479	0,00855	0,00554
0,8	0,38487	0,10142	0,03509	0,01684	0,00975	0,00632
0,9	0,40601	0,11158	0,03915	0,01887	0,01094	0,00710
1,0	0,42489	0,12127	0,04314	0,02088	0,01213	0,00788
1,5	0,49596	0,16331	0,06199	0,03066	0,01797	0,01173
2,0	0,54304	0,19659	0,07904	0,03994	0,02362	0,01549
3,0	0,60130	0,24477	0,10809	0,05696	0,03436	0,02277
4,0	0,63528	0,27701	0,13130	0,07192	0,04426	0,02965
5,0	0,65706	0,29947	0,14980	0,08193	0,05330	0,03612
6,0	0,67197	0,31567	0,16458	0,09616	0,06149	0,04215
7,0	0,68269	0,32769	0,17646	0,10582	0,06886	0,04774
8,0	0,69070	0,33682	0,18608	0,11412	0,07547	0,05290
9,0	0,69688	0,34390	0,19394	0,12125	0,08137	0,05764
10,0	0,70177	0,34949	0,20041	0,12739	0,08664	0,06199
15,0	0,71593	0,36526	0,22008	0,14776	0,10559	0,07863
20,0	0,72258	0,37208	0,22928	0,15836	0,11652	0,08923
30,0	0,72883	0,37771	0,23715	0,16808	0,12738	0,10058

$Bi_0 = 1,0$

Bi_1	A_1	$-A_2$	A_3	$-A_4$	A_5	$-A_6$
40,0	0,73177	0,37995	0,24029	0,17215	0,13220	0,10593
50,0	0,73347	0,38107	0,24185	0,17420	0,13469	0,10880
60,0	0,73457	0,38172	0,24273	0,17536	0,13613	0,11049
80,0	0,73590	0,38242	0,24364	0,17657	0,13764	0,11228
100,0	0,73669	0,38276	0,24407	0,17715	0,13837	0,11315

$Bi_0 = 1,5$

Bi_1	μ_1	μ_2	μ_3	μ_4	μ_5	μ_6
0,0001	0,98831	3,54219	6,50967	9,58010	12,68409	15,80260
0,001	0,98893	3,54242	6,50981	9,58019	12,68416	15,80266
0,002	0,98962	3,54268	6,50995	9,58029	12,68423	15,80272
0,004	0,99100	3,54319	6,51025	9,58050	12,68439	15,80285
0,006	0,99237	3,54370	6,51054	9,58070	12,68455	15,80297
0,008	0,99374	3,54421	6,51084	9,58091	12,68470	15,80310
0,01	0,99511	3,54472	6,51114	9,58112	12,68486	15,80322
0,02	1,00189	3,54728	6,51263	9,58215	12,68564	15,80386
0,04	1,01520	3,55239	6,51559	9,58420	12,68720	15,80511
0,06	1,02819	3,55748	6,51856	9,58625	12,68877	15,80637
0,08	1,04088	3,56255	6,52152	9,58830	12,69032	15,80762
0,1	1,05327	3,56762	6,52448	9,59035	12,69189	15,80888
0,2	1,11126	3,59271	6,53924	9,60059	12,69968	15,81517
0,3	1,16345	3,61741	6,55392	9,61080	12,70747	15,82144
0,4	1,21077	3,64171	6,56851	9,62099	12,71524	15,82771
0,5	1,25394	3,66558	6,58302	9,63115	12,72300	15,83398
0,6	1,29351	3,68902	6,59743	9,64127	12,73074	15,84023
0,7	1,32993	3,71201	6,61176	9,65136	12,73848	15,84648
0,8	1,36358	3,73455	6,62597	9,66142	12,74619	15,85272
0,9	1,39478	3,75663	6,64008	9,67143	12,75389	15,85896
1,0	1,42377	3,77825	6,65407	9,68141	12,76157	15,86517
1,5	1,54272	3,87948	6,72227	9,73067	12,79968	15,89613
2,0	1,63054	3,96958	6,78725	9,77872	12,83724	15,92678
3,0	1,75088	4,12010	6,90681	9,87064	12,91035	15,98701

4,0	1,82888	4,23824	7,01231	9,95632	12,98034	16,04549
5,0	1,88320	4,33182	7,10452	10,03538	13,04681	16,10193
6,0	1,92306	4,40695	7,18478	10,10780	13,10952	16,15613
7,0	1,95348	4,46816	7,25461	10,17381	13,16837	16,20793
8,0	1,97744	4,51872	7,31548	10,23381	13,22340	16,25726
9,0	1,99675	4,56105	7,36873	10,28826	13,27468	16,30408
10,0	2,01266	4,59692	7,41549	10,33766	13,32238	16,34842
15,0	2,06285	4,71575	7,58134	10,52528	13,51436	16,53518
20,0	2,08936	4,78168	7,68021	10,64638	13,64782	16,67354
30,0	2,11683	4,85188	7,79014	10,78851	13,81380	16,85561
40,0	2,13093	4,88850	7,84904	10,86745	13,90992	16,96579
50,0	2,13951	4,91092	7,88553	10,91714	13,97163	17,03815
60,0	2,14526	4,92605	7,91029	10,95116	14,01434	17,08884
80,0	2,15251	4,94515	7,94171	10,99459	14,06929	17,15474
100,0	2,15691	4,95672	7,96978	11,02107	14,10302	17,19548

$Bi_0 = 1,5$

Bi_1	A_1	$-A_2$	A_3	$-A_4$	A_5	$-A_6$
0,0001	0,00008	0,00001	0,00000	0,00000	0,00000	0,00000
0,001	0,00077	0,00013	0,00004	0,00002	0,00001	0,00001
0,002	0,00153	0,00027	0,00009	0,00004	0,00002	0,00002
0,004	0,00306	0,00053	0,00018	0,00008	0,00005	0,00003
0,006	0,00457	0,00080	0,00027	0,00013	0,00007	0,00005
0,008	0,00608	0,00106	0,00036	0,00017	0,00010	0,00006
0,01	0,00758	0,00133	0,00044	0,00021	0,00012	0,00008
0,02	0,01494	0,00266	0,00089	0,00042	0,00024	0,00016
0,04	0,02906	0,00529	0,00178	0,00085	0,00049	0,00032
0,06	0,04243	0,00790	0,00266	0,00127	0,00073	0,00048
0,08	0,05510	0,01050	0,00354	0,00169	0,00098	0,00063
0,1	0,06715	0,01307	0,00442	0,00211	0,00122	0,00079
0,2	0,11956	0,02562	0,00878	0,00421	0,00244	0,00158
0,3	0,16198	0,03767	0,01308	0,00629	0,00365	0,00237
0,4	0,19729	0,04922	0,01731	0,00836	0,00486	0,00315
0,5	0,22732	0,06028	0,02148	0,01042	0,00606	0,00394

$Bi_0 = 1,5$

Bi_1	A_1	$-A_2$	A_3	$-A_4$	A_5	$-A_6$
0,6	0,25330	0,07088	0,02558	0,01246	0,00725	0,00472
0,7	0,27608	0,08102	0,02962	0,01448	0,00844	0,00550
0,8	0,29627	0,09072	0,03359	0,01648	0,00963	0,00627
0,9	0,31435	0,10000	0,03750	0,01847	0,01080	0,00705
1,0	0,33064	0,10887	0,04133	0,02044	0,01198	0,00782
1,5	0,39319	0,14778	0,05948	0,03002	0,01774	0,01163
2,0	0,43567	0,17903	0,07594	0,03912	0,02333	0,01537
3,0	0,48941	0,22496	0,10410	0,05584	0,03395	0,02258
4,0	0,52139	0,25616	0,12672	0,07055	0,04374	0,02912
5,0	0,54214	0,27812	0,14481	0,08337	0,05269	0,03584
6,0	0,55648	0,29407	0,15932	0,09445	0,06080	0,04183
7,0	0,56685	0,30597	0,17101	0,10399	0,06810	0,04738
8,0	0,57464	0,31505	0,18050	0,11220	0,07466	0,05251
9,0	0,58068	0,32212	0,18827	0,11925	0,08052	0,05723
10,0	0,58546	0,32773	0,19468	0,12534	0,08575	0,06155
15,0	0,59940	0,34365	0,21421	0,14556	0,10458	0,07816
20,0	0,60600	0,35062	0,22339	0,15610	0,11546	0,08867
30,0	0,61223	0,35646	0,23128	0,16579	0,12629	0,09998
40,0	0,61518	0,35881	0,23444	0,16986	0,13109	0,10533
50,0	0,61688	0,36001	0,23602	0,17191	0,13358	0,10819
60,0	0,61798	0,36072	0,23691	0,17308	0,13503	0,10987
80,0	0,61933	0,36148	0,23784	0,17430	0,13654	0,11166
100,0	0,62012	0,36187	0,23829	0,17488	0,13727	0,11253

$Bi_0 = 2,0$

Bi_1	μ_1	μ_2	μ_3	μ_4	μ_5	μ_6
0,0001	1,07694	3,64362	6,57835	9,62957	12,72230	15,83361
0,001	1,07754	3,64384	6,57848	9,62966	12,72237	15,83367
0,002	1,07822	3,64409	6,57862	9,62976	12,72245	15,83373
0,004	1,07955	3,64458	6,57891	9,62997	12,72260	15,83385
0,006	1,08088	3,64506	6,57921	9,63016	12,72276	15,83398
0,008	1,08221	3,64556	6,57950	9,63037	12,72292	15,83411
0,01	1,08353	3,64605	6,57979	9,63058	12,72307	15,83424
0,02	1,09011	3,64851	6,58124	9,63159	12,72385	15,83486
0,04	1,10304	3,65340	6,58416	9,63362	12,72549	15,83611
0,06	1,11569	3,65829	6,58707	9,63566	12,72695	15,83736
0,08	1,12835	3,66317	6,58997	9,63769	12,72851	15,83862
0,1	1,14116	3,66804	6,59288	9,63972	12,73006	15,83987
0,2	1,19703	3,69215	6,60737	9,64986	12,73781	15,84613
0,3	1,24854	3,71590	6,62178	9,65997	12,74555	15,85239
0,4	1,29549	3,73931	6,63611	9,67007	12,75327	15,85863
0,5	1,33851	3,76231	6,65035	9,68012	12,76099	15,86487
0,6	1,37819	3,78492	6,66451	9,69015	12,76869	15,87110
0,7	1,41467	3,80713	6,67858	9,70015	12,77638	15,87733
0,8	1,44855	3,82892	6,69254	9,71011	12,78405	15,88354
0,9	1,48005	3,85030	6,70641	9,72003	12,79170	15,88975
1,0	1,50941	3,87124	6,72017	9,72992	12,79934	15,89594
1,5	1,63054	3,96958	6,78725	9,77872	12,83724	15,92678
2,0	1,72067	4,05751	6,85123	9,82635	12,87461	15,95733
3,0	1,84507	4,20519	6,96915	9,91751	12,94732	16,01733

4,0	1,92621	4,32176	7,07341	10,00254	13,01695	16,07561
5,0	1,98293	4,41449	7,16469	10,08105	13,08311	16,13187
6,0	2,02463	4,48916	7,24428	10,15302	13,14554	16,18589
7,0	2,05652	4,55012	7,31361	10,21865	13,20415	16,23754
8,0	2,08164	4,60058	7,37411	10,27834	13,25897	16,28573
9,0	2,10192	4,64287	7,42709	10,33255	13,31007	16,33343
10,0	2,11863	4,67873	7,47365	10,38176	13,35762	16,37765
15,0	2,17137	4,79778	7,63991	10,56879	13,54910	16,56401
20,0	2,19926	4,86394	7,73776	10,68967	13,68232	16,70215
30,0	2,22816	4,93444	7,84768	10,83166	13,84813	16,88404
40,0	2,24298	4,97124	7,90659	10,91058	13,94119	16,99416
50,0	2,25200	4,99377	7,94309	10,96027	14,00388	17,06648
60,0	2,25815	5,00898	7,96788	10,99429	14,04858	17,11716
80,0	2,26568	5,02819	7,99931	11,03772	14,10353	17,18305
100,0	2,27029	5,03981	8,01840	11,06421	14,13726	17,22379

$Bi_0 = 2,0$

Bi_1	A_1	$-A_2$	A_3	$-A_4$	A_5	$-A_6$
0,0001	0,00006	0,00001	0,00000	0,00000	0,00000	0,00000
0,001	0,00059	0,00012	0,00004	0,00002	0,00001	0,00001
0,002	0,00118	0,00024	0,00008	0,00004	0,00002	0,00002
0,004	0,00234	0,00047	0,00017	0,00008	0,00005	0,00003
0,006	0,00351	0,00071	0,00025	0,00012	0,00007	0,00005
0,008	0,00466	0,00095	0,00034	0,00016	0,00010	0,00006
0,01	0,00582	0,00118	0,00042	0,00021	0,00012	0,00008
0,02	0,01149	0,00236	0,00085	0,00041	0,00024	0,00016
0,04	0,02241	0,00470	0,00169	0,00083	0,00048	0,00031
0,06	0,03281	0,00703	0,00254	0,00124	0,00072	0,00047
0,08	0,04273	0,00934	0,00338	0,00165	0,00096	0,00063
0,1	0,05221	0,01163	0,00422	0,00206	0,00120	0,00078
0,2	0,09402	0,02284	0,00838	0,00411	0,00240	0,00157
0,3	0,12855	0,03364	0,01248	0,00615	0,00360	0,00235
0,4	0,15773	0,04402	0,01652	0,00817	0,00479	0,00312
0,5	0,18288	0,05401	0,02051	0,01017	0,00597	0,00390
0,6	0,20485	0,06361	0,02444	0,01217	0,00715	0,00468
0,7	0,22430	0,07282	0,02830	0,01414	0,00832	0,00545
0,8	0,24167	0,08167	0,03210	0,01610	0,00949	0,00622
0,9	0,25733	0,09015	0,03584	0,01804	0,01066	0,00698
1,0	0,27152	0,09829	0,03952	0,01997	0,01181	0,00775
1,5	0,32675	0,13427	0,05695	0,02934	0,01750	0,01152
2,0	0,36494	0,16351	0,07281	0,03826	0,02302	0,01523
3,0	0,41408	0,20706	0,10005	0,05464	0,03350	0,02238
4,0	0,44377	0,23703	0,12202	0,06909	0,04318	0,02916
5,0	0,46325	0,25833	0,13967	0,08169	0,05203	0,03553
6,0	0,47680	0,27391	0,15387	0,09261	0,06005	0,04148
7,0	0,48665	0,28558	0,16534	0,10201	0,06728	0,04699
8,0	0,49408	0,29454	0,17468	0,11011	0,07377	0,05208
9,0	0,49984	0,30154	0,18233	0,11709	0,07958	0,05677
10,0	0,50443	0,30710	0,18866	0,12310	0,08477	0,06106
15,0	0,51784	0,32303	0,20831	0,14314	0,10346	0,07758
20,0	0,52422	0,33007	0,21715	0,15362	0,11429	0,08804
30,0	0,53026	0,33604	0,22504	0,16328	0,12507	0,09931
40,0	0,53313	0,33848	0,22822	0,16734	0,12986	0,10464
50,0	0,53478	0,33974	0,22981	0,16939	0,13235	0,10750
60,0	0,53586	0,34049	0,23072	0,17056	0,13379	0,10918
80,0	0,53718	0,34130	0,23167	0,17178	0,13530	0,11097
100,0	0,53795	0,34173	0,23213	0,17237	0,13603	0,11184

$Bi_0 = 3,0$

Bi_1	μ_1	μ_2	μ_3	μ_4	μ_5	μ_6
0,0001	1,19253	3,80878	6,70396	9,72404	12,79665	15,89452
0,001	1,19312	3,80899	6,70409	9,72412	12,79672	15,89457
0,002	1,19376	3,80923	6,70423	9,72422	12,79680	15,89463
0,004	1,19506	3,80969	6,70451	9,72443	12,79695	15,89476
0,006	1,19636	3,81016	6,70480	9,72462	12,79710	15,89488
0,008	1,19765	3,81062	6,70509	9,72482	12,79726	15,89500
0,01	1,19894	3,81109	6,70537	9,72502	12,79741	15,89513
0,02	1,20535	3,81341	6,70678	9,72602	12,79818	15,89575
0,04	1,21797	3,81805	6,70960	9,72802	12,79971	15,89700
0,06	1,23033	3,82268	6,71242	9,73002	12,80125	15,89824
0,08	1,24246	3,82730	6,71524	9,73201	12,80279	15,89948
0,1	1,25433	3,83191	6,71806	9,73401	12,80432	15,90073
0,2	1,31042	3,85477	6,73209	9,74397	12,81199	15,90694
0,3	1,36160	3,87733	6,74606	9,75391	12,81964	15,91315
0,4	1,40854	3,89956	6,75996	9,76382	12,82729	15,91935
0,5	1,45178	3,92146	6,77378	9,77370	12,83492	15,92554
0,6	1,49176	3,94300	6,78752	9,78356	12,84254	15,93172
0,7	1,52886	3,96419	6,80117	9,79338	12,85014	15,93790
0,8	1,56337	3,98501	6,81474	9,80318	12,85773	15,94408
0,9	1,59557	4,00546	6,82820	9,81293	12,86530	15,95024
1,0	1,62567	4,02553	6,84157	9,82265	12,87286	15,95639
1,5	1,75088	4,12010	6,90681	9,87064	12,91035	15,98701
2,0	1,84507	4,20519	6,96915	9,91751	12,94732	16,01733

$Bi_0 = 3{,}0$

Bi_1	μ_1	μ_3	μ_5	μ_7	μ_9	μ_{11}
3,0	1,97648	4,34925	7,08433	10,00729	13,01932	16,07692
4,0	2,06302	4,46395	7,18653	10,09113	13,08329	16,13480
5,0	2,12387	4,55577	7,27630	10,16865	13,15385	16,19070
6,0	2,16879	4,63007	7,35477	10,23980	13,21577	16,24439
7,0	2,20322	4,69096	7,42331	10,30476	13,27303	16,29575
8,0	2,23040	4,74149	7,48322	10,36391	13,32835	16,34467
9,0	2,25237	4,78393	7,53577	10,41768	13,37911	16,39111
10,0	2,27048	4,81998	7,58202	10,46652	13,42636	16,43512
15,0	2,32776	4,94003	7,74673	10,65256	13,61690	16,62072
20,0	2,35807	5,00690	7,84539	10,77307	13,74970	16,75845
30,0	2,38951	5,07828	7,95538	10,91486	13,91520	16,94000
40,0	2,40564	5,11558	8,01441	10,99374	14,01117	17,05030
50,0	2,41545	5,13813	8,05101	11,04344	14,07284	17,12228
60,0	2,42205	5,15385	8,07586	11,07748	14,11552	17,17294
80,0	2,43035	5,17332	8,10739	11,12093	14,17048	17,23882
100,0	2,43536	5,18510	8,12653	11,14745	14,20421	17,27955

$Bi_0 = 3{,}0$

Bi_1	A_1	$-A_2$	A_3	$-A_4$	A_5	$-A_6$
0,0001	0,00004	0,00001	0,00000	0,00000	0,00000	0,00000
0,001	0,00040	0,00010	0,00004	0,00002	0,00001	0,00001
0,002	0,00080	0,00019	0,00008	0,00004	0,00002	0,00002
0,004	0,00161	0,00038	0,00015	0,00008	0,00005	0,00003
0,006	0,00240	0,00058	0,00023	0,00012	0,00007	0,00005
0,008	0,00320	0,00077	0,00031	0,00016	0,00009	0,00006
0,01	0,00399	0,00096	0,00038	0,00021	0,00012	0,00008
0,02	0,00789	0,00192	0,00077	0,00039	0,00023	0,00015
0,04	0,01544	0,00382	0,00154	0,00078	0,00047	0,00031
0,06	0,02268	0,00571	0,00230	0,00118	0,00070	0,00046
0,08	0,02962	0,00759	0,00306	0,00157	0,00093	0,00061
0,1	0,03629	0,00946	0,00382	0,00196	0,00117	0,00077
0,2	0,06613	0,01862	0,00760	0,00391	0,00233	0,00153
0,3	0,09130	0,02749	0,01134	0,00584	0,00349	0,00230
0,4	0,11294	0,03607	0,01502	0,00776	0,00464	0,00306
0,5	0,13184	0,04436	0,01855	0,00967	0,00579	0,00382
0,6	0,14857	0,05235	0,02223	0,01156	0,00693	0,00458
0,7	0,16352	0,06007	0,02576	0,01344	0,00807	0,00534
0,8	0,17700	0,06751	0,02924	0,01530	0,00920	0,00610
0,9	0,18925	0,07468	0,03266	0,01715	0,01033	0,00684
1,0	0,20043	0,08159	0,03603	0,01899	0,01145	0,00759
1,5	0,24471	0,11248	0,05215	0,02792	0,01697	0,01129
2,0	0,27605	0,13804	0,06670	0,03543	0,02233	0,01492
3,0	0,31735	0,17691	0,09204	0,05211	0,03252	0,02194
4,0	0,34293	0,20424	0,11266	0,06598	0,04194	0,02859
5,0	0,35991	0,22396	0,12935	0,07811	0,05056	0,03485
6,0	0,37187	0,23856	0,14285	0,08855	0,05839	0,04069
7,0	0,38064	0,24962	0,15383	0,09776	0,06546	0,04611
8,0	0,38729	0,25816	0,16281	0,10562	0,07181	0,05112
9,0	0,39248	0,26488	0,17018	0,11240	0,07750	0,05573
10,0	0,39662	0,27025	0,17630	0,11826	0,08258	0,05996
15,0	0,40881	0,28582	0,19515	0,13785	0,10095	0,07625
20,0	0,41465	0,29283	0,20414	0,14816	0,11163	0,08551
30,0	0,42020	0,29887	0,21197	0,15770	0,12229	0,09477
40,0	0,42284	0,30140	0,21517	0,16173	0,12715	0,10036
50,0	0,42438	0,30273	0,21678	0,16378	0,12952	0,10391
60,0	0,42537	0,30352	0,21771	0,16496	0,13095	0,10758
80,0	0,42659	0,30441	0,21859	0,16618	0,13246	0,11036
100,0	0,42731	0,30489	0,21918	0,16578	0,13319	0,11023

$Bi_0 = 4{,}0$

Bi_1	μ_1	μ_3	μ_5	μ_7	μ_9	μ_{11}
0,0001	1,26466	3,93518	6,81402	9,81188	12,86776	15,95363
0,001	1,26524	3,93539	6,81415	9,81197	12,86783	15,95368
0,002	1,26588	3,93561	6,81428	9,81207	12,86790	15,95374
0,004	1,26717	3,93606	6,81456	9,81227	12,86806	15,95387

$Bi_0 = 4{,}0$

Bi_1	μ_1	μ_3	μ_5	μ_7	μ_9	μ_{11}
0,006	1,26845	3,93651	6,81483	9,81246	12,86821	15,95399
0,008	1,26973	3,93696	6,81511	9,81266	12,86836	15,95412
0,01	1,27101	3,93741	6,81538	9,81286	12,86852	15,95424
0,02	1,27736	3,93966	6,81676	9,81384	12,86927	15,95486
0,04	1,28986	3,94416	6,81952	9,81581	12,87078	15,95609
0,06	1,30213	3,94864	6,82227	9,81777	12,87231	15,95733
0,08	1,31417	3,95312	6,82502	9,81974	12,87383	15,95856
0,1	1,32598	3,95758	6,82777	9,82171	12,87535	15,95979
0,2	1,38190	3,97974	6,84148	9,83151	12,88294	15,96596
0,3	1,43312	4,00162	6,85512	9,84130	12,89052	15,97213
0,4	1,48028	4,02319	6,86869	9,85107	12,89809	15,97829
0,5	1,52386	4,04446	6,88219	9,86080	12,90564	15,98444
0,6	1,56428	4,06541	6,89561	9,87051	12,91318	15,99058
0,7	1,60187	4,08602	6,90896	9,88019	12,92072	15,99672
0,8	1,63694	4,10628	6,92221	9,88983	12,92823	16,00285
0,9	1,66973	4,12621	6,93538	9,89944	12,93572	16,00896

1,0	1,70045	4,14578	6,94846	9,90902	12,94321	16,01508
1,5	1,82888	4,23824	7,01231	9,95632	12,98034	16,04549
2,0	1,92621	4,32176	7,07340	10,00254	13,01695	16,07561
3,0	2,06302	4,46395	7,18653	10,09113	13,08829	16,13480
4,0	2,15375	4,57786	7,28719	10,17396	13,15666	16,19232
5,0	2,21784	4,66948	7,37583	10,25064	13,22169	16,24788
6,0	2,26530	4,74390	7,45350	10,32109	13,28313	16,30126
7,0	2,30175	4,80505	7,52145	10,38549	13,34088	16,35233
8,0	2,33057	4,85590	7,58098	10,44418	13,39494	16,40099
9,0	2,35388	4,89868	7,63325	10,49757	13,44540	16,44723
10,0	2,37313	4,93507	7,67931	10,54612	13,49239	16,49103
15,0	2,43407	5,05651	7,84375	10,73135	13,68211	16,67592
20,0	2,46637	5,12435	7,94249	10,85160	13,81453	16,81327
30,0	2,49988	5,19685	8,05276	10,99329	13,97977	16,99451
40,0	2,51709	5,23473	8,11200	11,07220	14,07568	17,10441
50,0	2,52755	5,25796	8,14874	11,12194	14,13734	17,17665
60,0	2,53458	5,27363	8,17369	11,15601	14,18003	17,22730
80,0	2,54344	5,29343	8,20535	11,19952	14,23500	17,29317
100,0	2,54879	5,30540	8,22458	11,22607	14,26875	17,33392

$Bi_0 = 4,0$

Bi_1	A_1	$-A_2$	A_3	$-A_4$	A_5	$-A_6$
0,0001	0,00003	0,00001	0,00000	0,00000	0,00000	0,00000
0,001	0,00031	0,00008	0,00003	0,00002	0,00001	0,00001
0,002	0,00061	0,00016	0,00007	0,00004	0,00002	0,00002
0,004	0,00122	0,00032	0,00014	0,00007	0,00004	0,00003
0,006	0,00183	0,00048	0,00021	0,00011	0,00007	0,00004
0,008	0,00244	0,00064	0,00028	0,00015	0,00009	0,00006
0,01	0,00304	0,00080	0,00035	0,00019	0,00011	0,00008
0,02	0,00602	0,00160	0,00070	0,00037	0,00023	0,00015
0,04	0,01180	0,00320	0,00139	0,00074	0,00045	0,00030
0,06	0,01735	0,00478	0,00209	0,00111	0,00068	0,00045
0,08	0,02270	0,00636	0,00278	0,00148	0,00090	0,00060
0,1	0,02784	0,00793	0,00347	0,00185	0,00113	0,00075
0,2	0,05105	0,01563	0,00690	0,00369	0,00225	0,00150
0,3	0,07084	0,02311	0,01030	0,00552	0,00337	0,00224
0,4	0,08810	0,03036	0,01365	0,00734	0,00448	0,00299
0,5	0,10311	0,03739	0,01696	0,00915	0,00559	0,00373
0,6	0,11657	0,04420	0,02022	0,01094	0,00670	0,00447
0,7	0,12867	0,05078	0,02344	0,01272	0,00780	0,00521
0,8	0,13963	0,05715	0,02662	0,01449	0,00889	0,00595
0,9	0,14964	0,06331	0,02974	0,01624	0,00998	0,00668
1,0	0,15882	0,06925	0,03283	0,01798	0,01106	0,00741
1,5	0,19552	0,09676	0,04752	0,02646	0,01640	0,01103
2,0	0,22189	0,11852	0,06101	0,03455	0,02159	0,01458
3,0	0,25717	0,15318	0,08450	0,04948	0,03145	0,02144
4,0	0,27934	0,17795	0,10376	0,06274	0,04059	0,02795
5,0	0,29427	0,19605	0,11914	0,07437	0,04806	0,03408

$Bi_0 = 4,0$

Bi_1	A_1	$-A_2$	A_3	$-A_4$	A_5	$-A_6$
6,0	0,30485	0,20957	0,13220	0,08449	0,05657	0,03980
7,0	0,31266	0,21988	0,14262	0,09327	0,06345	0,04512
8,0	0,31860	0,22791	0,15118	0,10086	0,06964	0,05003
9,0	0,32326	0,23425	0,15824	0,10742	0,07519	0,05456
10,0	0,32698	0,23935	0,16412	0,11310	0,08016	0,05872
15,0	0,33800	0,25426	0,18234	0,13217	0,09815	0,07475
20,0	0,34331	0,26107	0,19110	0,14225	0,10864	0,08195
30,0	0,34838	0,26702	0,19881	0,15164	0,11916	0,09599
40,0	0,35079	0,26955	0,20199	0,15562	0,12385	0,10124
50,0	0,35220	0,27089	0,20360	0,15766	0,12631	0,10405
60,0	0,35311	0,27170	0,20454	0,15883	0,12774	0,10572
80,0	0,35423	0,27262	0,20554	0,16006	0,12924	0,10749
100,0	0,35489	0,27312	0,20605	0,16066	0,12997	0,10835

$Bi_0 = 5,0$

Bi_1	μ_1	μ_2	μ_3	μ_4	μ_5	μ_6
0,0001	1,31390	4,03358	6,90961	9,89276	12,93523	16,01066
0,001	1,31448	4,03378	6,90973	9,89281	12,93530	16,01072
0,002	1,31512	4,03400	6,90987	9,89294	12,93537	16,01078
0,004	1,31640	4,03445	6,91013	9,89314	12,93552	16,01090
0,006	1,31768	4,03489	6,91041	9,89333	12,93567	16,01102
0,008	1,31895	4,03533	6,91068	9,89352	12,93582	16,01115
0,01	1,32022	4,03577	6,91095	9,89372	12,93597	16,01127
0,02	1,32654	4,03798	6,91230	9,89469	12,93672	16,01188
0,04	1,33900	4,04239	6,91500	9,89663	12,93823	16,01311
0,06	1,35123	4,04679	6,91771	9,89857	12,93974	16,01434
0,08	1,36324	4,05118	6,92041	9,90051	12,94125	16,01556
0,1	1,37502	4,05556	6,92311	9,90245	12,94275	16,01679
0,2	1,43093	4,07730	6,93657	9,91213	12,95027	16,02292
0,3	1,48229	4,09878	6,94997	9,92180	12,95778	16,02904
0,4	1,52968	4,11997	6,96330	9,93143	12,96528	16,03516
0,5	1,57356	4,14087	6,97656	9,94105	12,97277	16,04127

0,6	1,61434	4,16145	6,98975	9,95063	12,98024	16,04738
0,7	1,65235	4,18172	7,00287	9,96018	12,98770	16,05347
0,8	1,68785	4,20168	7,01589	9,96971	12,99515	16,05956
0,9	1,72110	4,22129	7,02881	9,97920	13,00258	16,06564
1,0	1,75229	4,24057	7,04169	9,98866	13,00999	16,07172
1,5	1,88320	4,33182	7,10452	10,03538	13,04681	16,10193
2,0	1,98293	4,41449	7,16469	10,08105	13,08311	16,13187
3,0	2,12387	4,55577	7,27630	10,16865	13,15385	16,19070
4,0	2,21784	4,66948	7,37583	10,25064	13,22169	16,24788
5,0	2,28445	4,76128	7,46367	10,32661	13,28624	16,30312
6,0	2,33390	4,83605	7,54078	10,39648	13,34726	16,35622
7,0	2,37194	4,89763	7,60836	10,46041	13,40464	16,40703
8,0	2,40205	4,94892	7,66763	10,51872	13,45839	16,45546
9,0	2,42645	4,99214	7,71975	10,57182	13,50858	16,50148
10,0	2,44659	5,02894	7,76573	10,62012	13,55534	16,54509
15,0	2,51045	5,15197	7,93020	10,80475	13,74432	16,72933
20,0	2,54434	5,22083	8,02917	10,92484	13,87643	16,85635
30,0	2,57953	5,29450	8,13987	11,06654	14,04149	17,04731
40,0	2,59761	5,33302	8,19939	11,14552	14,13737	17,15714
50,0	2,60850	5,35664	8,23632	11,19534	14,19904	17,22935
60,0	2,61599	5,37257	8,26140	11,22945	14,24175	17,28001
80,0	2,62530	5,39271	8,29323	11,27304	14,29675	17,34588
100,0	2,63092	5,40489	8,31256	11,29964	14,33053	17,38663

$Bi_0 = 5,0$

Bi_1	A_1	$-A_2$	A_3	$-A_4$	A_5	$-A_6$
0,0001	0,00002	0,00001	0,00000	0,00000	0,00000	0,00000
0,001	0,00025	0,00007	0,00003	0,00002	0,00001	0,00001
0,002	0,00050	0,00014	0,00006	0,00004	0,00002	0,00001
0,004	0,00099	0,00028	0,00013	0,00007	0,00004	0,00003
0,006	0,00148	0,00041	0,00019	0,00010	0,00006	0,00004
0,008	0,00197	0,00055	0,00025	0,00014	0,00009	0,00006
0,01	0,00246	0,00069	0,00032	0,00018	0,00011	0,00007
0,02	0,00486	0,00137	0,00063	0,00035	0,00022	0,00015

$Bi_0 = 5,0$

Bi_1	A_1	$-A_2$	A_3	$-A_4$	A_5	$-A_6$
0,04	0,00954	0,00274	0,00127	0,00070	0,00043	0,00029
0,06	0,01405	0,00410	0,00190	0,00105	0,00065	0,00044
0,08	0,01839	0,00545	0,00253	0,00140	0,00087	0,00058
0,1	0,02259	0,00660	0,00316	0,00175	0,00108	0,00073
0,2	0,04157	0,01342	0,00628	0,00349	0,00217	0,00146
0,3	0,05785	0,01985	0,00938	0,00521	0,00324	0,00219
0,4	0,07206	0,02611	0,01243	0,00693	0,00432	0,00291
0,5	0,08462	0,03219	0,01545	0,00864	0,00538	0,00364
0,6	0,09586	0,03808	0,01843	0,01033	0,00645	0,00436
0,7	0,10600	0,04380	0,02137	0,01201	0,00751	0,00508
0,8	0,11522	0,04934	0,02428	0,01368	0,00856	0,00580
0,9	0,12365	0,05470	0,02714	0,01534	0,00961	0,00651
1,0	0,13141	0,05989	0,02996	0,01699	0,01066	0,00722
1,5	0,16264	0,08344	0,04344	0,02501	0,01581	0,01075
2,0	0,18530	0,10333	0,05587	0,03268	0,02081	0,01421
3,0	0,21595	0,13438	0,07761	0,04687	0,03034	0,02091
4,0	0,23542	0,15684	0,09555	0,05949	0,03917	0,02726
5,0	0,24864	0,17340	0,11024	0,07070	0,04728	0,03324
6,0	0,25806	0,18587	0,12226	0,08070	0,05466	0,03884
7,0	0,26504	0,19544	0,13212	0,08872	0,06133	0,04404
8,0	0,27038	0,20292	0,14023	0,09602	0,06735	0,04885
9,0	0,27457	0,20887	0,14696	0,10234	0,07275	0,05329
10,0	0,27793	0,21366	0,15257	0,10782	0,07758	0,05736
15,0	0,28791	0,22779	0,17006	0,12631	0,09515	0,07310
20,0	0,29274	0,23431	0,17856	0,13613	0,10542	0,08314
30,0	0,29736	0,24006	0,18608	0,14533	0,11576	0,09402
40,0	0,29957	0,24254	0,18922	0,14925	0,12040	0,09920
50,0	0,30086	0,24386	0,19082	0,15126	0,12282	0,10199
60,0	0,30169	0,24467	0,19176	0,15243	0,12423	0,10364
80,0	0,30272	0,24558	0,19277	0,15376	0,12573	0,10540
100,0	0,30332	0,24609	0,19328	0,15426	0,12646	0,10626

$Bi_0 = 6,0$

Bi_1	μ_1	μ_2	μ_3	μ_4	μ_5	μ_6
0,0001	1,34962	4,11163	6,99236	9,96667	12,99882	16,06540
0,001	1,35020	4,11183	6,99248	9,96677	12,99889	16,06545
0,002	1,35084	4,11205	6,99261	9,96686	12,99896	16,06551
0,004	1,35211	4,11249	6,99288	9,96705	12,99911	16,06564
0,006	1,35338	4,11292	6,99315	9,96725	12,99926	16,06576
0,008	1,35465	4,11336	6,99342	9,96744	12,99940	16,06588
0,01	1,35592	4,11380	6,99368	9,96763	12,99956	16,06600
0,02	1,36222	4,11597	6,99502	9,96859	13,00030	16,06661
0,04	1,37466	4,12033	6,99769	9,97051	13,00180	16,06783
0,06	1,38688	4,12468	7,00035	9,97243	13,00330	16,06905
0,08	1,39887	4,12901	7,00302	9,97435	13,00478	16,07027
0,1	1,41066	4,13334	7,00568	9,97626	13,00628	16,07149
0,2	1,46660	4,15483	7,01896	9,98585	13,01374	16,07758
0,3	1,51809	4,17606	7,03218	9,99540	13,02119	16,08367
0,4	1,56567	4,19701	7,04533	10,00494	13,02863	16,08975
0,5	1,60982	4,21768	7,05843	10,01444	13,03606	16,09582

0,6	1,65089	4,23805	7,07144	10,02393	13,04347	16,10189
0,7	1,68922	4,25812	7,08438	10,03338	13,05087	16,10796
0,8	1,72507	4,27788	7,09724	10,04280	13,05827	16,11401
0,9	1,75868	4,29731	7,11002	10,05219	13,06564	16,12006
1,0	1,79025	4,31641	7,12272	10,06155	13,07299	16,12609
1,5	1,92306	4,40695	7,18478	10,10780	13,10952	16,15613
2,0	2,02463	4,48916	7,24428	10,15302	13,14554	16,18589
3,0	2,16879	4,63007	7,35477	10,23980	13,21577	16,24439
4,0	2,26530	4,74390	7,45350	10,32109	13,28313	16,30126
5,0	2,33390	4,83605	7,54078	10,39648	13,34726	16,35622
6,0	2,38492	4,91128	7,61752	10,46587	13,40791	16,40906
7,0	2,42422	4,97334	7,68487	10,52943	13,46497	16,45962
8,0	2,45536	5,02512	7,74402	10,58744	13,51844	16,50784
9,0	2,48062	5,06879	7,79607	10,64030	13,56839	16,55367
10,0	2,50148	5,10601	7,84204	10,68843	13,61495	16,59711

$Bi_0 = 6,0$

Bi_1	μ_1	μ_2	μ_3	μ_4	μ_5	μ_6
15,0	2,56769	5,23065	8,00677	10,87263	13,80333	16,78077
20,0	2,60287	5,30053	8,10609	10,99264	13,93519	16,91748
30,0	2,63942	5,37534	8,21731	11,13444	14,10012	17,09822
40,0	2,65820	5,41449	8,27716	11,21355	14,19601	17,20798
50,0	2,66962	5,43819	8,31431	11,26346	14,25771	17,28020
60,0	2,67730	5,45469	8,33954	11,29766	14,30015	17,33085
80,0	2,68698	5,47516	8,37157	11,34135	14,35550	17,39674
100,0	2,69282	5,48754	8,39102	11,36801	14,38930	17,43752

$Bi_0 = 6,0$

Bi_1	A_1	$-A_2$	A_3	$-A_4$	A_5	$-A_6$
0,0001	0,00002	0,00001	0,00000	0,00000	0,00000	0,00000
0,001	0,00021	0,00006	0,00003	0,00002	0,00001	0,00001
0,002	0,00042	0,00012	0,00006	0,00003	0,00002	0,00001
0,004	0,00083	0,00024	0,00012	0,00007	0,00004	0,00003
0,006	0,00124	0,00036	0,00017	0,00010	0,00006	0,00004
0,008	0,00165	0,00048	0,00023	0,00013	0,00008	0,00006
0,01	0,00206	0,00060	0,00029	0,00016	0,00010	0,00007
0,02	0,00408	0,00120	0,00058	0,00033	0,00021	0,00014
0,04	0,00801	0,00239	0,00116	0,00066	0,00042	0,00028
0,06	0,01180	0,00358	0,00173	0,00099	0,00063	0,00043
0,08	0,01546	0,00476	0,00231	0,00132	0,00083	0,00057
0,1	0,01900	0,00593	0,00288	0,00165	0,00104	0,00071
0,2	0,03504	0,01172	0,00574	0,00329	0,00208	0,00142
0,3	0,04887	0,01736	0,00857	0,00491	0,00312	0,00213
0,4	0,06098	0,02284	0,01136	0,00653	0,00415	0,00283
0,5	0,07172	0,02818	0,01413	0,00814	0,00518	0,00354
0,6	0,08136	0,03336	0,01686	0,00974	0,00620	0,00424
0,7	0,09007	0,03840	0,01955	0,01133	0,00722	0,00494
0,8	0,09801	0,04328	0,02221	0,01291	0,00823	0,00564
0,9	0,10528	0,04802	0,02484	0,01447	0,00924	0,00633
1,0	0,11199	0,05261	0,02743	0,01603	0,01025	0,00702
1,5	0,13912	0,07352	0,03983	0,02361	0,01520	0,01046
2,0	0,15893	0,09139	0,05129	0,03087	0,02002	0,01383
3,0	0,18594	0,11928	0,07143	0,04432	0,02920	0,02034
4,0	0,20324	0,13971	0,08814	0,05633	0,03772	0,02653
5,0	0,21505	0,15489	0,10189	0,06691	0,04555	0,03237
6,0	0,22351	0,16639	0,11318	0,07617	0,05268	0,03782
7,0	0,22980	0,17526	0,12247	0,08424	0,05915	0,04290
8,0	0,23462	0,18222	0,13015	0,09124	0,06498	0,04760
9,0	0,23841	0,18776	0,13653	0,09731	0,07022	0,05193
10,0	0,24146	0,19225	0,14187	0,10259	0,07492	0,05592
15,0	0,25054	0,20556	0,15861	0,12045	0,09202	0,07133
20,0	0,25494	0,21176	0,16679	0,12999	0,10206	0,08119
30,0	0,25918	0,21727	0,17410	0,13896	0,11219	0,09190
40,0	0,26120	0,21966	0,17716	0,14281	0,11675	0,09701
50,0	0,26238	0,22094	0,17874	0,14481	0,11914	0,09977
60,0	0,26315	0,22173	0,17967	0,14595	0,12054	0,10140
80,0	0,26409	0,22263	0,18067	0,14717	0,12202	0,10314
100,0	0,26464	0,22313	0,18119	0,14777	0,12275	0,10411

$Bi_0 = 7,0$

Bi_1	μ_1	μ_2	μ_3	μ_4	μ_5	μ_6
0,0001	1,37668	4,17465	7,06404	10,03392	13,05815	16,11769
0,001	1,37726	4,17485	7,06416	10,03400	13,05851	16,11774
0,002	1,37789	4,17506	7,06429	10,03410	13,05859	16,11780
0,004	1,37917	4,17551	7,06455	10,03429	13,05874	16,11793
0,006	1,38044	4,17593	7,06482	10,03448	13,05888	16,11805
0,008	1,38171	4,17637	7,06509	10,03468	13,05903	16,11817
0,01	1,38298	4,17681	7,06535	10,03486	13,05918	16,11829
0,02	1,38928	4,17896	7,06657	10,03581	13,05992	16,11890
0,04	1,40170	4,18328	7,06931	10,03772	13,06141	16,12011
0,06	1,41390	4,18760	7,07195	10,03962	13,06289	16,12132
0,08	1,42599	4,19190	7,07458	10,04152	13,06437	16,12254
0,1	1,43768	4,19619	7,07722	10,04342	13,06586	16,12375
0,2	1,49368	4,21751	7,09036	10,05292	13,07326	16,12981

$Bi_0 = 7{,}0$

Bi_1	μ_1	μ_3	μ_5	μ_7	μ_9	μ_{11}
0,3	1,54528	4,23859	7,10345	10,06239	13,08066	16,13586
0,4	1,59304	4,25938	7,11648	10,07184	13,08895	16,14191
0,5	1,63739	4,27991	7,12943	10,08126	13,09542	16,14796
0,6	1,67870	4,30015	7,14233	10,09066	13,10279	16,15399
0,7	1,71728	4,32008	7,15514	10,10003	13,11014	16,16002
0,8	1,75341	4,33971	7,16788	10,10937	13,11748	16,16604
0,9	1,78730	4,35913	7,18053	10,11868	13,12479	16,17205
1,0	1,81916	4,37834	7,19311	10,12796	13,13210	16,17805
1,5	1,95348	4,46816	7,25461	10,17381	13,16837	16,20793
2,0	2,05652	4,55012	7,31361	10,21865	13,20415	16,23754
3,0	2,20322	4,69096	7,42330	10,30476	13,27393	16,29575
4,0	2,30175	4,81505	7,52145	10,38549	13,34088	16,35233
5,0	2,37194	4,89763	7,60836	10,46041	13,40464	16,40703
6,0	2,42422	4,97334	7,68487	10,52943	13,46497	16,45962
7,0	2,46454	5,03590	7,75210	10,59268	13,52176	16,50998
8,0	2,49652	5,08816	7,81120	10,65046	13,57499	16,55801
9,0	2,52247	5,13227	7,86327	10,70314	13,62473	16,60366
10,0	2,54391	5,16990	7,90928	10,75114	13,67113	16,64695
15,0	2,61204	5,29607	8,07441	10,93506	13,85899	16,83008
20,0	2,64827	5,36690	8,17416	11,05508	13,99066	16,96654
30,0	2,68592	5,44281	8,28596	11,19707	14,15553	17,14709
40,0	2,70528	5,48254	8,34618	11,27634	14,25146	17,25681
50,0	2,71706	5,50690	8,38355	11,32637	14,31321	17,32903
60,0	2,72498	5,52335	8,40895	11,36066	14,35599	17,37970
80,0	2,73495	5,54414	8,44118	11,40447	14,41111	17,44562
100,0	2,74098	5,55671	8,46077	11,43121	14,44495	17,48642

$Bi_0 = 7{,}0$

Bi_1	A_1	$-A_2$	A_3	$-A_4$	A_5	$-A_6$
0,0001	0,00002	0,00000	0,00000	0,00000	0,00000	0,00000
0,001	0,00018	0,00005	0,00003	0,00002	0,00001	0,00001
0,002	0,00036	0,00011	0,00005	0,00003	0,00002	0,00001
0,004	0,00071	0,00021	0,00011	0,00006	0,00004	0,00003
0,006	0,00107	0,00032	0,00016	0,00009	0,00006	0,00004
0,008	0,00142	0,00042	0,00021	0,00012	0,00008	0,00006
0,01	0,00177	0,00053	0,00027	0,00016	0,00010	0,00007
0,02	0,00351	0,00106	0,00053	0,00031	0,00020	0,00014
0,04	0,00690	0,00212	0,00106	0,00062	0,00040	0,00028
0,06	0,01017	0,00317	0,00159	0,00093	0,00060	0,00041
0,08	0,01333	0,00421	0,00212	0,00124	0,00080	0,00055
0,1	0,01638	0,00526	0,00265	0,00155	0,00100	0,00069
0,2	0,03028	0,01039	0,00527	0,00310	0,00200	0,00138
0,3	0,04229	0,01539	0,00786	0,00463	0,00299	0,00206
0,4	0,05284	0,02026	0,01043	0,00616	0,00398	0,00275
0,5	0,06221	0,02501	0,01297	0,00768	0,00497	0,00343
0,6	0,07063	0,02963	0,01548	0,00919	0,00595	0,00411
0,7	0,07826	0,03411	0,01796	0,01068	0,00693	0,00479
0,8	0,08523	0,03847	0,02040	0,01217	0,00790	0,00547
0,9	0,09162	0,04270	0,02282	0,01365	0,00887	0,00615
1,0	0,09753	0,04681	0,02521	0,01512	0,00984	0,00682
1,5	0,12147	0,06556	0,03664	0,02228	0,01459	0,01015
2,0	0,13904	0,08159	0,04724	0,02915	0,01922	0,01343
3,0	0,16313	0,10698	0,06593	0,04190	0,02805	0,01976
4,0	0,17866	0,12565	0,08150	0,05330	0,03626	0,02578
5,0	0,18932	0,13960	0,09437	0,06337	0,04381	0,03146
6,0	0,19697	0,15022	0,10498	0,07229	0,05070	0,03677
7,0	0,20268	0,15844	0,11373	0,07991	0,05695	0,04172
8,0	0,20706	0,16492	0,12099	0,08561	0,06259	0,04630
9,0	0,21052	0,17009	0,12704	0,09244	0,06766	0,05053
10,0	0,21329	0,17429	0,13210	0,09759	0,07222	0,05442
15,0	0,22159	0,18881	0,14807	0,11472	0,08884	0,06949
20,0	0,22563	0,19267	0,15592	0,12396	0,09862	0,07915
30,0	0,22952	0,19792	0,16298	0,13269	0,10853	0,08967
40,0	0,23138	0,20021	0,16597	0,13645	0,11301	0,09470

$Bi_0 = 7{,}0$

Bi_1	A_1	$-A_2$	A_3	$-A_4$	A_5	$-A_6$
50,0	0,23246	0,20145	0,16751	0,13840	0,11536	0,09742
60,0	0,23317	0,20221	0,16842	0,13953	0,11674	0,09903
70,0	0,23404	0,20308	0,16942	0,14074	0,11820	0,10076
100,0	0,23455	0,20357	0,16993	0,14134	0,11892	0,10160

$Bi = 8{,}0$

Bi_1	μ_1	μ_3	μ_5	μ_7	μ_9	μ_{11}
0,0001	1,39788	4,22638	7,12629	10,09492	13,11414	16,16746
0,001	1,39846	4,22657	7,12641	10,09501	13,11420	16,16752
0,002	1,39909	4,22679	7,12654	10,09510	13,11427	16,16758
0,004	1,40037	4,22722	7,12680	10,09529	13,11443	16,16769
0,006	1,40164	4,22765	7,12707	10,09548	13,11457	16,16782
0,008	1,40290	4,22808	7,12733	10,09566	13,11472	16,16794
0,01	1,40417	4,22852	7,12759	10,09586	13,11487	16,16806
0,02	1,41046	4,23067	7,12890	10,09680	13,11560	16,16856

0,04	1,42288	4,23496	7,13152	10,09869	13,11708	16,16987
0,06	1,43509	4,23925	7,13414	10,10058	13,11855	16,17107
0,08	1,44708	4,24353	7,13676	10,10246	13,12003	16,17229
0,1	1,45886	4,24781	7,13937	10,10435	13,12151	16,17349
0,2	1,51491	4,26911	7,15241	10,11378	13,12886	16,17952
0,3	1,56663	4,28998	7,16540	10,12318	13,13622	16,18555
0,4	1,61452	4,31068	7,17833	10,13255	13,14355	16,19156
0,5	1,65904	4,33111	7,19119	10,14191	13,15089	16,19758
0,6	1,70054	4,35126	7,20398	10,15124	13,15820	16,20358
0,7	1,73934	4,37111	7,21670	10,16054	13,16551	16,20958
0,8	1,77568	4,39066	7,22935	10,16982	13,17280	16,21557
0,9	1,80980	4,40991	7,24192	10,17906	13,18008	16,22155
1,0	1,84189	4,42885	7,25440	10,18827	13,18734	16,22753
1,5	1,97744	4,51872	7,31548	10,23381	13,22340	16,25726
2,0	2,08164	4,60058	7,37411	10,27834	13,25897	16,28673
3,0	2,23040	4,74149	7,48322	10,36391	13,32835	16,34467
4,0	2,33057	4,85590	7,58098	10,44418	13,39494	16,40099
5,0	2,40205	4,94892	7,66763	10,51872	13,45839	16,45546
6,0	2,45536	5,02512	7,74402	10,58744	13,51844	16,50784
7,0	2,49652	5,08816	7,81120	10,65046	13,57499	16,55801
8,0	2,52919	5,14086	7,87032	10,70806	13,62801	16,60586
9,0	2,55570	5,18539	7,92244	10,76060	13,67760	16,65135
10,0	2,57762	5,22340	7,96853	10,80851	13,72384	16,69451
15,0	2,64733	5,35099	8,13416	10,99229	13,91129	16,87718
20,0	2,68442	5,42271	8,23438	11,11239	14,04283	17,01341
30,0	2,72309	5,49962	8,34680	11,25462	14,20770	17,19382
40,0	2,74283	5,53989	8,40738	11,33408	14,30370	17,30354
50,0	2,75491	5,56460	8,44500	11,38425	14,36551	17,37577
60,0	2,76302	5,58128	8,47057	11,41854	14,4 834	17,42646
80,0	2,77325	5,60234	8,50391	11,46258	14,46353	17,49243
100,0	2,77942	5,61510	8,52273	11,48941	14,49743	17,53325

$Bi_0 = 8,0$

Bi_1	A_1	$-A_2$	A_3	$-A_4$	A_5	$-A_6$
0,0001	0,00002	0,00000	0,00000	0,00000	0,00000	0,00000
0,001	0,00016	0,00005	0,00002	0,00001	0,00001	0,00001
0,002	0,00031	0,00010	0,00005	0,00003	0,00002	0,00001
0,004	0,00063	0,00019	0,00010	0,00006	0,00004	0,00003
0,006	0,00094	0,00029	0,00015	0,00009	0,00006	0,00004
0,008	0,00125	0,00038	0,00021	0,00012	0,00008	0,00005
0,01	0,00156	0,00048	0,00024	0,00015	0,00010	0,00007
0,02	0,00309	0,00095	0,00049	0,00029	0,00019	0,00013
0,04	0,00606	0,00190	0,00098	0,00059	0,00038	0,00027
0,06	0,00894	0,00284	0,00146	0,00088	0,00058	0,00040
0,08	0,01172	0,00378	0,00195	0,00117	0,00077	0,00054
0,1	0,01440	0,00471	0,00244	0,00146	0,00096	0,00067
0,2	0,02665	0,00931	0,00485	0,00292	0,00191	0,00134
0,3	0,03726	0,01380	0,00724	0,00437	0,00287	0,00200
0,4	0,04660	0,01818	0,00961	0,00581	0,00382	0,00266
0,5	0,05491	0,02245	0,01195	0,00724	0,00476	0,00333

$Bi_0 = 8,0$

Bi_1	A_1	$-A_2$	A_3	$-A_4$	A_5	$-A_6$
0,6	0,06239	0,02660	0,01427	0,00866	0,00570	0,00399
0,7	0,06918	0,03065	0,01656	0,01008	0,00664	0,00465
0,8	0,07538	0,03458	0,01882	0,01148	0,00758	0,00530
0,9	0,08107	0,03839	0,02106	0,01288	0,00851	0,00596
1,0	0,08634	0,04210	0,02326	0,01426	0,00943	0,00661
1,5	0,10775	0,05907	0,03381	0,02104	0,01400	0,00985
2,0	0,12352	0,07363	0,04367	0,02753	0,01844	0,01302
3,0	0,14523	0,09681	0,06105	0,03961	0,02693	0,01917
4,0	0,15930	0,11395	0,07559	0,05043	0,03482	0,02502
5,0	0,16899	0,12683	0,08764	0,06001	0,04209	0,03053
6,0	0,17597	0,13666	0,09761	0,06843	0,04873	0,03570
7,0	0,18118	0,14434	0,10587	0,07578	0,05476	0,04051
8,0	0,18519	0,15034	0,11272	0,08219	0,06021	0,04497
9,0	0,18835	0,15517	0,11845	0,08777	0,06512	0,04909
10,0	0,19090	0,15910	0,12325	0,09264	0,06953	0,05288
15,0	0,19853	0,17086	0,13846	0,10920	0,08565	0,06760
20,0	0,20225	0,17640	0,14599	0,11813	0,09517	0,07705
30,0	0,20583	0,18139	0,15279	0,12660	0,10485	0,08737
40,0	0,20755	0,18358	0,15568	0,13027	0,10923	0,09231
50,0	0,20855	0,18476	0,15718	0,13218	0,11154	0,09499
60,0	0,20921	0,18549	0,15807	0,13329	0,11290	0,09658
80,0	0,21001	0,18634	0,15905	0,13448	0,11434	0,09828
100,0	0,21048	0,18680	0,15955	0,13508	0,11505	0,09912

$Bi_0 = 9,0$

Bi_1	μ_1	μ_2	μ_3	μ_4	μ_5	μ_6
0,0001	1,41493	4,26946	7,18056	10,15019	13,16599	16,21468
0,001	1,41550	4,26965	7,18069	10,15028	13,16605	16,21474
0,002	1,41614	4,26987	7,18082	10,15037	13,16613	16,21479
0,004	1,41741	4,27030	7,18108	10,15056	13,16628	16,21491
0,006	1,41858	4,27073	7,18134	10,15075	13,16643	16,21503
0,008	1,41995	4,27116	7,18159	10,15093	13,16657	16,21516
0,01	1,42122	4,27158	7,18186	10,15112	13,16672	16,27527
0,02	1,42751	4,27373	7,18316	10,15206	13,16746	16,21587

0,04	1,43992	4,27802	7,18577	10,15394	13,16892	16,21708
0,06	1,45212	4,28229	7,18837	10,15582	13,17039	16,21828
0,08	1,46412	4,28655	7,19097	10,15769	13,17185	16,21948
0,1	1,47591	4,29081	7,19357	10,15957	13,17332	16,22068
0,2	1,53201	4,31194	7,20654	10,16893	13,18064	16,22668
0,3	1,58381	4,33283	7,21945	10,17828	13,18796	16,23268
0,4	1,63182	4,35347	7,23230	10,18760	13,19526	16,23867
0,5	1,67648	4,37383	7,24509	10,19690	13,20255	16,24466
0,6	1,71814	4,39392	7,25781	10,20618	13,20983	16,25064
0,7	1,75710	4,41372	7,27046	10,21542	13,21709	16,25661
0,8	1,79363	4,43323	7,28304	10,22464	13,22435	16,26257
0,9	1,82794	4,45242	7,29554	10,23383	13,23159	16,26853
1,0	1,86023	4,47131	7,30796	10,24299	13,23882	16,27448
1,5	1,99675	4,56105	7,36873	10,28826	13,27468	16,30408
2,0	2,10192	4,64287	7,42709	10,33255	13,31007	16,33343
3,0	2,25237	4,78393	7,53577	10,41768	13,37911	16,39111
4,0	2,35388	4,89858	7,63325	10,49757	13,44540	16,44723
5,0	2,42645	4,99214	7,71975	10,57182	13,50858	16,50148
6,0	2,48062	5,06879	7,79607	10,64030	13,56839	16,55367
7,0	2,52247	5,13227	7,86327	10,70314	13,62473	16,60366
8,0	2,55570	5,18539	7,92244	10,76060	13,67760	16,65135
9,0	2,58268	5,23030	7,97464	10,81306	13,72703	16,69672
10,0	2,60501	5,26865	8,02083	10,86090	13,77316	16,73975
15,0	2,67604	5,39755	8,18703	11,04463	13,96028	16,92202
20,0	2,71386	5,47008	8,28771	11,16487	14,09174	17,05807
30,0	2,75320	5,54790	8,40076	11,30738	14,25664	17,23837
40,0	2,77344	5,58867	8,46172	11,38707	14,35273	17,34810
50,0	2,78576	5,61368	8,49958	11,43739	14,41463	17,42037
60,0	2,79405	5,63057	8,52531	11,47189	14,45752	17,47109
80,0	2,80448	5,65190	8,55708	11,51598	14,51281	17,53710
100,0	2,81078	5,66482	8,57782	11,54289	14,54676	17,57796

$Bi_0 = 9,0$

Bi_1	A_1	$-A_2$	A_3	$-A_4$	A_5	$-A_6$
0,0001	0,00001	0,00000	0,00000	0,00000	0,00000	0,00000
0,001	0,00014	0,00004	0,00002	0,00001	0,00001	0,00001
0,002	0,00028	0,00009	0,00004	0,00003	0,00002	0,00001
0,004	0,00056	0,00017	0,00009	0,00006	0,00004	0,00003
0,006	0,00084	0,00026	0,00014	0,00008	0,00006	0,00004
0,008	0,00111	0,00034	0,00018	0,00011	0,00007	0,00005
0,01	0,00139	0,00043	0,00023	0,00014	0,00009	0,00005
0,02	0,00275	0,00086	0,00045	0,00028	0,00018	0,00013
0,04	0,00540	0,00172	0,00090	0,00055	0,00037	0,00026
0,06	0,00797	0,00257	0,00136	0,00083	0,00055	0,00039
0,08	0,01015	0,00342	0,00181	0,00111	0,00074	0,00052
0,1	0,01285	0,00426	0,00226	0,00138	0,00092	0,00065
0,2	0,02380	0,00813	0,00419	0,00276	0,00183	0,00129
0,3	0,03330	0,01250	0,00670	0,00412	0,00275	0,00194
0,4	0,04167	0,01648	0,00890	0,00548	0,00366	0,00258
0,5	0,04913	0,02035	0,01107	0,00684	0,00456	0,00322
0,6	0,05586	0,02412	0,01321	0,00818	0,00547	0,00386
0,7	0,06196	0,02779	0,01533	0,00952	0,00636	0,00450
0,8	0,06755	0,03136	0,01743	0,01084	0,00726	0,00514
0,9	0,07268	0,03483	0,01950	0,01216	0,00815	0,00577
1,0	0,07743	0,03821	0,02155	0,01347	0,00904	0,00640
1,5	0,09678	0,05369	0,03138	0,01988	0,01342	0,00954
2,0	0,11108	0,06701	0,04052	0,02602	0,01768	0,01261
3,0	0,13083	0,08829	0,05673	0,03747	0,02583	0,01858
4,0	0,14367	0,10411	0,07033	0,04774	0,03342	0,02425
5,0	0,15254	0,11604	0,08164	0,05686	0,04042	0,02960
6,0	0,15894	0,12518	0,09112	0,06488	0,04681	0,03462
7,0	0,16373	0,13230	0,09881	0,07190	0,05263	0,03930
8,0	0,16743	0,13793	0,10528	0,07812	0,05788	0,04364
9,0	0,17034	0,14245	0,11070	0,08336	0,06262	0,04765
10,0	0,17269	0,14614	0,11526	0,08832	0,06689	0,05134
15,0	0,17973	0,15720	0,12974	0,10394	0,08250	0,06568
20,0	0,18318	0,16244	0,13694	0,11256	0,09176	0,07492
30,0	0,18650	0,16717	0,14348	0,12077	0,10119	0,08372
40,0	0,18809	0,16925	0,14627	0,12434	0,10548	0,08983
50,0	0,18902	0,17038	0,14773	0,12620	0,10774	0,09251
60,0	0,18963	0,17108	0,14860	0,12729	0,10907	0,09407
80,0	0,19037	0,17189	0,14955	0,12846	0,11049	0,09575
100,0	0,19081	0,17234	0,15095	0,12904	0,11119	0,09658

$Bi_0 = 10,0$

Bi_1	μ_1	μ_2	μ_3	μ_4	μ_5	μ_6
0,0001	1,42894	4,30582	7,22812	10,20027	13,21419	16,25936
0,001	1,42951	4,30602	7,22823	10,20036	13,21426	16,25941
0,002	1,43014	4,30623	7,22836	10,20045	13,21432	16,25948
0,004	1,43142	4,30666	7,22862	10,20063	13,21448	16,25960
0,006	1,43268	4,30708	7,22888	10,20082	13,21462	16,25972
0,008	1,43395	4,30751	7,22914	10,20100	13,21477	16,25983
0,01	1,43522	4,30794	7,22940	10,20119	13,21491	16,25996
0,02	1,44151	4,31007	7,23070	10,20213	13,21564	16,26055

0,04	1,45392	4,31435	7,23329	10,20399	13,21710	16,25175
0,06	1,46612	4,31861	7,23589	10,20586	13,21856	16,25295
0,08	1,47812	4,32286	7,23818	10,20773	13,22002	16,25414
0,1	1,48991	4,32711	7,24107	10,20959	13,22148	16,25534
0,2	1,54606	4,34819	7,25387	10,21892	13,22877	16,27132
0,3	1,59793	4,36903	7,26683	10,22821	13,23605	16,27729
0,4	1,64604	4,38962	7,27962	10,23749	13,24332	16,28326
0,5	1,69082	4,40994	7,29236	10,24674	13,25057	16,28922
0,6	1,73262	4,42999	7,30502	10,25597	13,25782	16,29518
0,7	1,77172	4,44975	7,31762	10,26517	13,26505	16,30113
0,8	1,80839	4,46922	7,33015	10,27434	13,27228	16,30707
0,9	1,84286	4,48839	7,34259	10,28349	13,27948	16,31300
1,0	1,87531	4,50726	7,35496	10,29261	13,28667	16,31893
1,5	2,01266	4,59692	7,41519	10,33766	13,32238	16,34842
2,0	2,11863	4,67873	7,47365	10,38176	13,35762	16,37765

$Bi_0 = 10,0$

Bi_1	μ_1	μ_2	μ_3	μ_4	μ_5	μ_6
3,0	2,27048	4,81998	7,58202	10,46652	13,42636	16,43512
4,0	2,37313	4,93507	7,67931	10,54612	13,49239	16,49103
5,0	2,44659	5,02894	7,76573	10,62012	13,55534	16,54509
6,0	2,50148	5,10601	7,84204	10,68843	13,61495	16,59711
7,0	2,54391	5,16990	7,90928	10,75114	13,67113	16,64695
8,0	2,57762	5,22340	7,96853	10,80851	13,72384	16,69451
9,0	2,60501	5,26855	8,02083	10,86090	13,77316	16,73975
10,0	2,62768	5,30732	8,06713	10,90871	13,81919	16,78268
15,0	2,69982	5,43739	8,23391	11,09248	14,00606	16,96461
20,0	2,73826	5,51066	8,33507	11,21288	14,13747	17,10050
30,0	2,77826	5,58031	8,44875	11,35571	14,30247	17,28075
40,0	2,79884	5,63052	8,51007	11,43563	14,39867	17,39050
50,0	2,81136	5,65582	8,54816	11,48611	14,46066	17,46281
60,0	2,81979	5,67289	8,57406	11,52072	14,50362	17,51356
80,0	2,83041	5,69447	8,60693	11,56496	14,55900	17,57964
100,0	2,83682	5,70753	8,62690	11,59196	14,59302	17,62054

$Bi_0 = 10,0$

Bi_1	A_1	$-A_2$	A_3	$-A_4$	A_5	$-A_6$
0,0001	0,00001	0,00000	0,00000	0,00000	0,00000	0,00000
0,001	0,00013	0,00004	0,00002	0,00001	0,00001	0,00001
0,002	0,00025	0,00008	0,00004	0,00003	0,00002	0,00001
0,004	0,00050	0,00016	0,00008	0,00005	0,00004	0,00002
0,006	0,00075	0,00024	0,00013	0,00008	0,00005	0,00004
0,008	0,00100	0,00031	0,00017	0,00010	0,00007	0,00005
0,01	0,00125	0,00039	0,00021	0,00013	0,00009	0,00006
0,02	0,00248	0,00078	0,00042	0,00026	0,00018	0,00012
0,04	0,00487	0,00157	0,00084	0,00052	0,00035	0,00025
0,06	0,00719	0,00234	0,00126	0,00078	0,00053	0,00038
0,08	0,00943	0,00312	0,00168	0,00104	0,00070	0,00050
0,1	0,01159	0,00389	0,00210	0,00130	0,00088	0,00063
0,2	0,02149	0,00770	0,00417	0,00260	0,00176	0,00125
0,3	0,03009	0,01142	0,00623	0,00391	0,00263	0,00188
0,4	0,03768	0,01505	0,00827	0,00518	0,00350	0,00250
0,5	0,04445	0,01859	0,01029	0,00646	0,00437	0,00312
0,6	0,05056	0,02204	0,01228	0,00773	0,00524	0,00374
0,7	0,05610	0,02540	0,01426	0,00900	0,00610	0,00436
0,8	0,06118	0,02867	0,01621	0,01025	0,00696	0,00497
0,9	0,06585	0,03185	0,01814	0,01150	0,00781	0,00559
1,0	0,07018	0,03495	0,02004	0,01274	0,00866	0,00620
1,5	0,08782	0,04916	0,02920	0,01883	0,01286	0,00923
2,0	0,10088	0,06142	0,03773	0,02462	0,01695	0,01221
3,0	0,11898	0,08108	0,05289	0,03548	0,02477	0,01799
4,0	0,13079	0,09574	0,06565	0,04524	0,03216	0,02349
5,0	0,13896	0,10583	0,07628	0,05391	0,03879	0,02868
6,0	0,14488	0,11535	0,08512	0,06155	0,04495	0,03355
7,0	0,14930	0,12200	0,09247	0,06825	0,05055	0,03809
8,0	0,15272	0,12728	0,09860	0,07411	0,05562	0,04231
9,0	0,15542	0,13152	0,10374	0,07922	0,06020	0,04620
10,0	0,15760	0,13498	0,10806	0,08368	0,06431	0,04979
15,0	0,16414	0,14540	0,12184	0,09897	0,07943	0,06376
20,0	0,16734	0,15035	0,12873	0,10728	0,08842	0,07278
30,0	0,17042	0,15484	0,13501	0,11523	0,09759	0,08266
40,0	0,17191	0,15682	0,13770	0,11870	0,10178	0,08742
50,0	0,17277	0,15790	0,13911	0,12051	0,10399	0,09000
60,0	0,17334	0,15857	0,13995	0,12157	0,10530	0,09154
80,0	0,17403	0,15934	0,14088	0,12272	0,10669	0,09319
100,0	0,17444	0,15977	0,14137	0,12329	0,10739	0,09401

$Bi_0 = 15,0$

Bi_1	μ_1	μ_2	μ_3	μ_4	μ_5	μ_6
0,0001	1,47298	4,42551	7,39591	10,38980	13,40776	16,44737
0,001	1,47355	4,42570	7,39603	10,38988	13,40783	16,44743
0,002	1,47419	4,42592	7,39616	10,38998	13,40790	16,44748
0,004	1,47546	4,42635	7,39641	10,39016	13,40804	16,44760
0,006	1,47673	4,42676	7,39667	10,39034	13,40819	16,44772

$Bi_0 = 15{,}0$

Bi_1	μ_1	μ_2	μ_3	μ_4	μ_5	μ_6
0,008	1,47800	4,42719	7,39693	10,39053	13,40833	16,44784
0,01	1,47926	4,42762	7,39718	10,39072	13,40848	16,44795
0,02	1,48555	4,42975	7,39816	10,39163	13,40919	16,44855
0,04	1,49796	4,43399	7,40102	10,39348	13,41063	16,44972
0,06	1,51017	4,43822	7,40359	10,39532	13,41207	16,45090
0,08	1,52217	4,44246	7,40615	10,39716	13,41351	16,45209
0,1	1,53398	4,44668	7,40871	10,39899	13,41495	16,45326
0,2	1,59028	4,46764	7,42147	10,40818	13,42213	16,45916
0,3	1,64241	4,48838	7,43418	10,41734	13,42929	16,46505
0,4	1,69084	4,50886	7,44683	10,42648	13,43645	16,47093
0,5	1,73600	4,52910	7,45943	10,43561	13,44360	16,47681
0,6	1,77822	4,54906	7,47195	10,44470	13,45074	16,48268
0,7	1,81779	4,56876	7,48442	10,45377	13,45787	16,48855
0,8	1,85494	4,58817	7,49681	10,46282	13,46498	16,49441
0,9	1,88990	5,60729	7,50912	10,47184	13,47208	16,50026
1,0	1,92287	4,62612	7,52137	10,48083	13,47917	16,50610
1,5	2,06285	4,71575	7,58134	10,52528	13,51436	16,53518
2,0	2,17137	4,79778	7,63091	10,56879	13,54910	16,56401
3,0	2,32776	4,94000	7,74673	10,65256	13,61690	16,62072
4,0	2,43407	5,05651	7,84375	10,73135	13,68211	16,67592
5,0	2,51045	5,15197	7,93020	10,80475	13,74432	16,72933
6,0	2,56769	5,23065	8,00677	10,87263	13,80333	16,78077
7,0	2,61214	5,29607	8,07441	10,93506	13,85899	16,83008
8,0	2,64733	5,35099	8,13416	10,99229	13,91129	16,87718
9,0	2,67604	5,39755	8,18703	11,04463	13,96028	16,92202
10,0	2,69982	5,43739	8,23391	11,09248	14,00606	16,96461
15,0	2,77565	5,57186	8,40345	11,27705	14,19247	17,14547
20,0	2,81612	5,64785	8,50673	11,39854	14,32409	17,28101
30,0	2,85831	5,72960	8,62314	11,54317	14,48991	17,46136
40,0	2,88002	5,77249	8,68606	11,62427	14,58684	17,57146
50,0	2,89325	5,79883	8,72517	11,67555	14,64938	17,64410
60,0	2,90215	5,81662	8,75177	11,71074	14,69276	17,69512
80,0	2,91336	5,83910	8,78555	11,75573	14,74870	17,76158
100,0	2,92013	5,85271	8,80608	11,78321	14,78307	17,80273

$Bi_0 = 15{,}0$

Bi_1	A_1	$-A_2$	A_3	$-A_4$	A_5	$-A_6$
0,0001	0,00001	0,00000	0,00000	0,00000	0,00000	0,00000
0,001	0,00008	0,00003	0,00002	0,00001	0,00001	0,00000
0,002	0,00017	0,00005	0,00003	0,00002	0,00001	0,00001
0,004	0,00034	0,00011	0,00006	0,00004	0,00003	0,00002
0,006	0,00050	0,00016	0,00009	0,00006	0,00004	0,00003
0,008	0,00067	0,00022	0,00012	0,00008	0,00006	0,00004
0,01	0,00084	0,00027	0,00015	0,00010	0,00007	0,00005
0,02	0,00166	0,00054	0,00031	0,00020	0,00014	0,00011
0,04	0,00327	0,00108	0,00061	0,00040	0,00029	0,00021
0,06	0,00482	0,00162	0,00092	0,00060	0,00043	0,00032
0,08	0,00633	0,00216	0,00122	0,00081	0,00057	0,00042
0,1	0,00778	0,00270	0,00153	0,00101	0,00071	0,00053
0,2	0,01446	0,00533	0,00304	0,00201	0,00143	0,00106
0,3	0,02029	0,00792	0,00455	0,00301	0,00214	0,00159
0,4	0,02545	0,01044	0,00604	0,00400	0,00284	0,00211
0,5	0,03007	0,01291	0,00752	0,00499	0,00355	0,00264
0,6	0,03425	0,01531	0,00898	0,00597	0,00425	0,00316
0,7	0,03805	0,01766	0,01042	0,00695	0,00495	0,00368
0,8	0,04153	0,01995	0,01186	0,00792	0,00565	0,00421
0,9	0,04475	0,02218	0,01327	0,00889	0,00635	0,00473
1,0	0,04773	0,02435	0,01467	0,00985	0,00704	0,00524
1,5	0,05994	0,03436	0,02142	0,01456	0,01046	0,00782
2,0	0,06904	0,04307	0,02773	0,01909	0,01383	0,01034
3,0	0,08176	0,05716	0,03913	0,02757	0,02019	0,01525
4,0	0,09013	0,06780	0,04862	0,03524	0,02617	0,01993
5,0	0,09597	0,07593	0,05669	0,04210	0,03172	0,02436

$Bi_0 = 15{,}0$

Bi_1	A_1	$-A_2$	A_3	$-A_4$	A_5	$-A_6$
6,0	0,10021	0,08223	0,06344	0,04818	0,03681	0,02853
7,0	0,10341	0,08718	0,06910	0,05353	0,04146	0,03243
8,0	0,10588	0,09112	0,07384	0,05824	0,04568	0,03605
9,0	0,10784	0,09432	0,07784	0,06236	0,04950	0,03941
10,0	0,10942	0,09693	0,08123	0,06598	0,05295	0,04251
15,0	0,11420	0,10488	0,09213	0,07859	0,06573	0,05465
20,0	0,11654	0,10870	0,09767	0,08540	0,07341	0,06255
30,0	0,11882	0,11221	0,10278	0,09209	0,08135	0,07130
40,0	0,11991	0,11377	0,10501	0,09505	0,08501	0,07555
50,0	0,12055	0,11463	0,10619	0,09662	0,08697	0,07788
60,0	0,12097	0,11516	0,10691	0,09754	0,08813	0,07927
80,0	0,12148	0,11578	0,10769	0,09855	0,08939	0,08078
100,0	0,12178	0,11613	0,10811	0,09907	0,09002	0,08154

$Bi_0 = 20{,}0$

Bi_1	μ_1	μ_2	μ_3	μ_4	μ_5	μ_6
0,0001	1,49620	4,49150	7,49542	10,51167	13,54198	16,58640
0,001	1,49677	4,49169	7,49554	10,51176	13,54205	16,58645
0,002	1,49741	4,49190	7,49567	10,51185	13,54211	16,58651
0,004	1,49868	4,49232	7,49592	10,51203	13,54226	16,58662
0,006	1,49994	4,49275	7,49618	10,51221	13,54240	16,58674
0,008	1,50121	4,49318	7,49643	10,51240	13,54254	16,58686
0,01	1,50247	4,49361	7,49669	10,51258	13,54269	16,58698
0,02	1,50876	4,49572	7,49796	10,51350	13,54340	16,58756
0,04	1,52118	4,49996	7,50052	10,51533	13,54483	16,58873
0,06	1,53339	4,50419	7,50307	10,51716	13,54626	16,58990
0,08	1,54540	4,50842	7,50562	10,51898	13,54768	16,59107
0,1	1,55723	4,51263	7,50816	10,52081	13,54911	16,59225
0,2	1,61361	4,53356	7,52088	10,52994	13,55624	16,59809
0,3	1,66588	4,55427	7,53354	10,53905	13,56335	16,60394
0,4	1,71449	4,57473	7,54614	10,54814	13,57046	16,60978
0,5	1,75985	4,59495	7,55869	10,55721	13,57756	16,61561
0,6	1,80229	4,61490	7,57117	10,56625	13,58465	16,62144
0,7	1,84210	4,63458	7,58359	10,57527	13,59173	16,62726
0,8	1,87952	4,65398	7,59594	10,58427	13,59878	16,63307
0,9	1,91475	4,67311	7,60822	10,59323	13,60583	16,63888
1,0	1,94798	4,69194	7,62042	10,60217	13,61288	16,64468
1,5	2,08936	4,78168	7,68021	10,64638	13,64782	16,67354
2,0	2,19926	4,86394	7,73776	10,68967	13,68232	16,70215
3,0	2,35807	5,00690	7,84539	10,77307	13,74970	16,75845
4,0	2,46637	5,12435	7,94249	10,85160	13,81453	16,81327
5,0	2,54434	5,22083	8,02917	10,92484	13,87643	16,86635
6,0	2,60287	5,30053	8,10609	10,99264	13,93519	16,91748
7,0	2,64827	5,36690	8,17416	11,05508	13,99066	16,96654
8,0	2,68442	5,42271	8,23438	11,11239	14,04283	17,01341
9,0	2,71386	5,47008	8,28771	11,16487	14,09174	17,05837
10,0	2,73826	5,51066	8,33507	11,21288	14,13747	17,10050
15,0	2,81612	5,64785	8,50673	11,39854	14,32409	17,28101
20,0	2,85774	5,72554	8,61160	11,52111	14,45621	17,41663
30,0	2,91114	5,82923	8,73002	11,66736	14,62308	17,59747
40,0	2,92349	5,85317	8,79411	11,74950	14,72082	17,70809
50,0	2,93711	5,88916	8,83397	11,80149	14,78392	17,78114
60,0	2,94627	5,89840	8,86108	11,83717	14,82772	17,83249
80,0	2,95781	5,92145	8,89553	11,88281	14,88422	17,89941
100,0	2,96479	5,93540	8,91647	11,91069	14,91896	17,94086

$Bi_0 = 20{,}0$

Bi_1	A_1	$-A_2$	A_3	$-A_4$	A_5	$-A_6$
0,0001	0,00001	0,00000	0,00000	0,00000	0,00000	0,00000
0,001	0,00006	0,00002	0,00001	0,00001	0,00001	0,00000
0,002	0,00013	0,00004	0,00002	0,00002	0,00001	0,00001
0,004	0,00025	0,00008	0,00005	0,00003	0,00002	0,00002
0,006	0,00038	0,00012	0,00007	0,00005	0,00004	0,00003
0,008	0,00050	0,00017	0,00010	0,00006	0,00005	0,00004
0,01	0,00063	0,00021	0,00012	0,00008	0,00006	0,00004
0,02	0,00125	0,00041	0,00024	0,00016	0,00012	0,00009

$Bi_0 = 20{,}0$

Bi_1	A_1	$-A_2$	A_3	$-A_4$	A_5	$-A_6$
0,04	0,00246	0,00183	0,00048	0,00032	0,00024	0,00018
0,06	0,00363	0,00124	0,00072	0,00049	0,00035	0,00027
0,08	0,00476	0,00165	0,00095	0,00065	0,00047	0,00036
0,1	0,00586	0,00205	0,00119	0,00081	0,00059	0,00045
0,2	0,01099	0,00406	0,00238	0,00161	0,00118	0,00090
0,3	0,01531	0,00604	0,00355	0,00242	0,00177	0,00135
0,4	0,01921	0,00796	0,00471	0,00321	0,00235	0,00180
0,5	0,02271	0,00984	0,00587	0,00401	0,00294	0,00224
0,6	0,02587	0,01168	0,00701	0,00480	0,00352	0,00269
0,7	0,02876	0,01348	0,00814	0,00559	0,00410	0,00313
0,8	0,03141	0,01523	0,00926	0,00637	0,00468	0,00358
0,9	0,03386	0,01694	0,01037	0,00714	0,00525	0,00402
1,0	0,03613	0,01860	0,01146	0,00792	0,00583	0,00446
1,5	0,04545	0,02630	0,01675	0,01171	0,00866	0,00665
2,0	0,05242	0,03301	0,02171	0,01536	0,01143	0,00880
3,0	0,06220	0,04392	0,03062	0,02222	0,01674	0,01299
4,0	0,06866	0,05221	0,03822	0,02845	0,02173	0,01699
5,0	0,07318	0,05858	0,04464	0,03403	0,02636	0,02078
6,0	0,07648	0,06353	0,05004	0,03900	0,03062	0,02436
7,0	0,07897	0,06744	0,05457	0,04338	0,03452	0,02779
8,0	0,08091	0,07056	0,05839	0,04725	0,03807	0,03082
9,0	0,08243	0,07310	0,06162	0,05065	0,04129	0,03371
10,0	0,08367	0,07518	0,06436	0,05364	0,04421	0,03659
15,0	0,08741	0,08153	0,07325	0,06405	0,05506	0,04691
20,0	0,08925	0,08461	0,07780	0,06984	0,06164	0,05381
30,0	0,09104	0,08744	0,08203	0,07550	0,06849	0,06150
40,0	0,09199	0,08871	0,08389	0,07803	0,07168	0,06527
50,0	0,09240	0,08940	0,08488	0,07937	0,07339	0,06733
60,0	0,09273	0,08984	0,08548	0,08017	0,07442	0,06859
80,0	0,09314	0,09035	0,08615	0,08105	0,07553	0,06994
100,0	0,09337	0,09063	0,08651	0,08150	0,07609	0,07063

$Bi_0 = 30{,}0$

Bi_1	μ_1	μ_2	μ_3	μ_4	μ_5	μ_6
0,0001	1,52023	4,56152	7,60570	10,65433	13,70855	16,76076
0,001	1,52081	4,56171	7,60581	10,65441	13,70861	16,76911
0,002	1,52144	4,56191	7,60594	10,65459	13,70869	16,76917
0,004	1,52271	4,56234	7,60619	10,65469	13,70882	16,76929
0,006	1,52398	4,56277	7,60645	10,65487	13,70897	16,76940
0,008	1,52524	4,56319	7,60670	10,65505	13,70911	16,76952
0,01	1,52651	4,56361	7,60696	10,65524	13,70925	16,76964
0,02	1,53280	4,56573	7,60824	10,65614	13,70996	16,77022
0,04	1,54522	4,56997	7,61078	10,65797	13,71138	16,77138
0,06	1,55744	4,57420	7,61333	10,65979	13,71280	16,77254
0,08	1,56946	4,57841	7,61587	10,66161	13,71422	16,77370
0,1	1,58129	4,58262	7,61842	10,66343	13,71564	16,77486
0,2	1,63777	4,60354	7,63110	10,67252	13,72272	16,78168
0,3	1,69019	4,62423	7,64372	10,68159	13,72981	16,78848
0,4	1,73898	4,64469	7,65631	10,69064	13,73687	16,79228
0,5	1,78456	4,66490	7,66882	10,69968	13,74393	16,79807
0,6	1,82724	4,68485	7,68127	10,70868	13,75098	16,80386
0,7	1,86730	4,70454	7,69366	10,71767	13,75802	16,80964
0,8	1,90497	4,72396	7,70599	10,72662	13,76504	16,81541
0,9	1,94048	4,74310	7,71825	10,73556	13,77205	16,82118
1,0	1,97400	4,76196	7,73043	10,74446	13,77904	16,82694
1,5	2,11683	4,85188	7,79014	10,78851	13,81389	16,85561
2,0	2,22816	4,93444	7,84766	10,83166	13,84813	16,88404
3,0	2,38951	5,07828	7,95538	10,91486	13,91520	16,94000
4,0	2,49988	5,19685	8,05276	10,99329	13,97977	16,99451
5,0	2,57953	5,29450	8,13987	11,06654	14,04149	17,04731
6,0	2,63942	5,37534	8,21731	11,13411	14,10012	17,09822
7,0	2,68592	5,44281	8,28596	11,19707	14,15553	17,14709
8,0	2,72340	5,49962	8,34683	11,25462	14,20770	17,19382
9,0	2,75320	5,54791	8,40076	11,30738	14,25664	17,23837
10,0	2,77826	5,58931	8,44875	11,35571	14,30247	17,28075

$Bi_0 = 30{,}0$

Bi_1	μ_1	μ_2	μ_3	μ_4	μ_5	μ_6
20,0	2,85831	5,72960	8,62314	11,54317	14,48991	17,46136
30,0	2,90114	5,80923	8,73902	11,66736	14,62308	17,59747
40,0	2,94584	5,89512	8,85099	11,81596	14,79180	17,77956
50,0	2,96887	5,94027	8,91654	11,89960	14,89085	17,89121
60,0	2,98290	5,96801	8,95735	11,95258	14,95489	17,96505
69,0	2,99235	5,98676	8,98512	11,98896	14,99936	18,01700
80,0	3,00425	6,01046	9,02041	12,03551	15,05676	18,08473
100,0	3,01144	6,02482	9,04186	12,06396	15,09207	18,12671

$Bi_0 = 30{,}0$

Bi_1	A_1	$-A_2$	A_3	$-A_4$	A_5	$-A_6$
0,0001	0,00000	0,00000	0,00000	0,00000	0,00000	0,00000
0,001	0,00004	0,00001	0,00001	0,00001	0,00000	0,00000
0,002	0,00008	0,00003	0,00002	0,00001	0,00001	0,00001
0,004	0,00017	0,00006	0,00003	0,00002	0,00002	0,00001
0,006	0,00025	0,00008	0,00005	0,00003	0,00003	0,00002
0,008	0,00034	0,00011	0,00007	0,00005	0,00003	0,00003
0,01	0,00042	0,00014	0,00008	0,00006	0,00004	0,00003
0,02	0,00083	0,00028	0,00016	0,00011	0,00009	0,00007
0,05	0,00164	0,00056	0,00033	0,00023	0,00017	0,00014
0,06	0,00242	0,00083	0,00049	0,00034	0,00026	0,00020
0,08	0,00318	0,00111	0,00066	0,00046	0,00034	0,00027
0,1	0,00392	0,00139	0,00082	0,00057	0,00043	0,00034
0,2	0,00729	0,00274	0,00164	0,00114	0,00086	0,00068
0,3	0,01025	0,00408	0,00244	0,00171	0,00129	0,00101
0,4	0,01287	0,00538	0, 0325	0,00227	0,00171	0,00135
0,5	0,01523	0,00665	0,00404	0,00283	0,00214	0,00168
0,6	0,01737	0,00790	0,00483	0,00339	0,00256	0,00202
0,7	0,01931	0,00911	0,00561	0,00395	0,00299	0,00235
0,8	0,02110	0,01030	0,00638	0,00450	0,00341	0,00269
0,9	0,02276	0,01146	0,00715	0,00506	0,00383	0,00302
1,0	0,02429	0,01259	0,00790	0,00560	0,00425	0,00335
1,5	0,03061	0,01782	0,01156	0,00829	0,00631	0,00500
2,0	0,03535	0,02240	0,01500	0,01088	0,00834	0,00662
3,0	0,04202	0,02989	0,02120	0,01577	0,01223	0,00978
4,0	0,04645	0,03560	0,02651	0,02022	0,01589	0,01280
5,0	0,04956	0,04001	0,03101	0,02422	0,01929	0,01567
6,0	0,05184	0,04345	0,03482	0,02779	0,02244	0,01838
7,0	0,05355	0,04618	0,03803	0,03096	0,02532	0,02092
8,0	0,05489	0,04837	0,04074	0,03376	0,02796	0,02330
9,0	0,05595	0,05015	0,04304	0,03623	0,03036	0,02551
10,0	0,05681	0,05161	0,04500	0,03841	0,03253	0,02755
15,0	0,05941	0,05610	0,05139	0,04604	0,04067	0,03565
20,0	0,06069	0,05829	0,05469	0,05033	0,04566	0,04100
30,0	0,06194	0,06032	0,05778	0,05456	0,05090	0,04702
40,0	0,06254	0,06123	0,05915	0,05647	0,05336	0,05000
50,0	0,06289	0,06173	0,05989	0,05749	0,05470	0,05164
60,0	0,06312	0,06204	0,06033	0,05810	0,05550	0,05264
80,0	0,06340	0,06241	0,06083	0,05878	0,05637	0,05374
100,0	0,06357	0,06261	0,06119	0,05913	0,05682	0,05429

$Bi_0 = 40{,}0$

Bi_1	μ_1	μ_2	μ_3	μ_4	μ_5	μ_6
0,0001	1,53257	4,59796	7,66466	10,73342	13,80485	16,87945
0,001	1,53314	4,59815	7,66479	10,73350	13,80491	16,87950
0,002	1,53378	4,58837	7,66491	10,73359	13,80498	16,87955
0,004	1,53505	4,59878	7,66517	10,73377	13,80512	16,87967
0,006	1,53632	4,59921	7,66542	10,73396	13,80527	16,87979
0,008	1,53758	4,59964	7,66567	10,73414	13,80540	16,87991
0,01	1,53884	4,60006	7,66593	10,73432	13,80555	16,88002
0,02	1,54514	4,60218	7,66721	10,73523	13,80626	16,88060
0,04	1,55756	4,60641	7,66975	10,73705	13,80768	16,88176
0,06	1,56978	4,61064	7,67229	10,73887	13,80909	16,88292
0,08	1,58180	4,61485	7,67481	10,74069	13,81051	16,88408
0,1	1,59365	4,61906	7,67738	10,74251	13,81192	16,88524

$Bi_0 = 40{,}0$

Bi_1	μ_1	μ_2	μ_3	μ_4	μ_5	μ_6
0,2	1,65018	4,63998	7,69905	10,75159	13,81900	16,89104
0,3	1,70266	4,66167	7,70267	10,76065	13,82606	16,89683
0,4	1,75156	4,68113	7,71523	10,76969	13,83311	16,90261
0,5	1,79724	4,70134	7,72774	10,77871	13,84016	16,90839
0,6	1,84004	4,72130	7,74020	10,78770	13,84720	16,91416
0,7	1,88022	4,74100	7,75259	10,79668	13,85422	16,91993
0,8	1,91804	4,76043	7,76491	10,80563	13,86124	16,92569
0,9	1,95369	4,77958	7,77715	10,81455	13,86823	16,93144
1,0	1,98735	4,79845	7,78934	10,82344	13,87521	16,93719
1,5	2,13093	4,88850	7,84904	10,86745	13,99992	16,96579
2,0	2,24298	4,97124	7,90659	10,91058	13,94419	16,99416
3,0	2,40564	5,11558	8,01441	10,99374	14,01117	17,05060
4,0	2,51709	5,23473	8,11200	11,07220	14,07568	17,10441
5,0	2,59761	5,33302	8,19939	11,14552	14,13737	17,15714
6,0	2,65820	5,41449	8,27716	11,21355	14,19601	17,20798
7,0	2,70528	5,48254	8,34618	11,27634	14,25146	17,25681
8,0	2,74283	5,53989	8,40738	11,33408	14,30370	17,30354
9,0	2,77344	5,58867	8,46172	11,38707	14,35273	17,34810
10,0	2,79884	5,63052	8,51007	11,43563	14,39867	17,39050
15,0	2,88002	5,77249	8,68696	11,62427	14,58584	17,57146
20,0	2,92349	5,85317	8,79411	11,74950	14,72082	17,70809
30,0	2,96887	5,94027	8,91654	11,89960	14,89085	17,89121
40,0	2,99226	5,98508	8,98296	11,98418	14,99082	18,00369
50,0	3,00652	6,01424	9,02431	12,03778	15,05559	18,07813
60,0	3,01611	6,03326	9,05247	12,07461	15,10043	18,13054
80,0	3,02820	6,05732	9,08824	12,12174	15,15846	18,19839
100,0	3,03551	6,07189	9,10999	12,15055	15,19415	18,24126

$Bi_0 = 40{,}0$

Bi_1	A_1	$-A_2$	A_3	$-A_4$	A_5	$-A_6$
0,0001	0,00000	0,00000	0,00000	0,00000	0,00000	0,00000
0,001	0,00003	0,00001	0,00001	0,00000	0,00000	0,00000
0,002	0,00006	0,00002	0,00001	0,00001	0,00001	0,00000
0,004	0,00013	0,00004	0,00002	0,00002	0,00001	0,00001
0,006	0,00019	0,00006	0,00004	0,00003	0,00002	0,00002
0,008	0,00025	0,00008	0,00005	0,00004	0,00003	0,00002
0,01	0,00032	0,00010	0,00006	0,00004	0,00003	0,00003
0,02	0,00063	0,00021	0,00012	0,00009	0,00007	0,00005
0,04	0,00123	0,00042	0,00025	0,00018	0,00013	0,00011
0,06	0,00182	0,00063	0,00037	0,00026	0,00020	0,00016
0,08	0,00239	0,00084	0,00050	0,00035	0,00027	0,00021
0,1	0,00294	0,00104	0,00062	0,00044	0,00033	0,00027
0,2	0,00548	0,00207	0,00124	0,00088	0,00067	0,00053
0,3	0,00770	0,00307	0,00186	0,00131	0,00100	0,00080
0,4	0,00968	0,00405	0,00247	0,00174	0,00133	0,00107
0,5	0,01146	0,00502	0,00307	0,00218	0,00166	0,00133
0,6	0,01307	0,00596	0,00367	0,00261	0,00199	0,00160
0,7	0,01454	0,00687	0,00426	0,00303	0,00232	0,00186
0,8	0,01589	0,00777	0,00485	0,00346	0,00265	0,00212
0,9	0,01714	0,00864	0,00543	0,00388	0,00298	0,00239
1,0	0,01829	0,00950	0,00601	0,00430	0,00330	0,00265
1,5	0,02307	0,01346	0,00879	0,00637	0,00492	0,00395
2,0	0,02666	0,01692	0,01141	0,00837	0,00649	0,00523
3,0	0,03171	0,02260	0,01614	0,01213	0,00953	0,00773
4,0	0,03508	0,02695	0,02020	0,01556	0,01239	0,01012
5,0	0,03745	0,03032	0,02365	0,01866	0,01505	0,01240
6,0	0,03918	0,03295	0,02657	0,02142	0,01751	0,01455
7,0	0,04049	0,03504	0,02904	0,02388	0,01978	0,01657
8,0	0,04151	0,03672	0,03114	0,02605	0,02185	0,01846
9,0	0,04232	0,03808	0,03291	0,02798	0,02373	0,02022
10,0	0,04298	0,03921	0,03442	0,02967	0,02544	0,02186
15,0	0,04497	0,04266	0,03938	0,03564	0,03188	0,02833
20,0	0,04595	0,04435	0,04194	0,03902	0,03584	0,03263
30,0	0,04691	0,04592	0,04436	0,04236	0,03817	0,03750

$Bi_0 = 40{,}0$

Bi_1	A_1	$-A_2$	A_3	$-A_4$	A_5	$-A_6$
40,0	0,04737	0,04662	0,04544	0,04387	0,04200	0,03992
50,0	0,04763	0,04701	0,04601	0,04468	0,04308	0,04126
60,0	0,04781	0,04726	0,04636	0,04517	0,04372	0,04208
80,0	0,04813	0,04754	0,04676	0,04571	0,04443	0,04298
100,0	0,04815	0,04770	0,04697	0,04599	0,04479	0,04344

$Bi_0 = 50{,}0$

Bi_1	μ_1	μ_2	μ_3	μ_4	μ_5	μ_6
0,0001	1,54008	4,62026	7,70117	10,78317	13,86664	16,95189
0,001	1,54064	4,62045	7,70129	10,78325	13,86670	16,95193
0,002	1,54128	4,62067	7,70141	10,78334	13,86677	16,95200
0,004	1,54255	4,62109	7,70167	10,78352	13,86691	16,95211
0,006	1,54382	4,62151	7,70192	10,78371	13,86706	16,95222
0,008	1,54509	4,62194	7,70217	10,78389	13,86720	16,95235
0,01	1,54635	4,62236	7,70243	10,78407	13,86734	16,95246
0,02	1,55264	4,62448	7,70370	10,78498	13,86804	16,95304
0,04	1,56506	4,62872	7,70624	10,78680	13,86946	16,95420
0,06	1,57729	4,63294	7,70879	10,78862	13,87087	16,95535
0,08	1,58932	4,63715	7,71133	10,79044	13,87229	16,95651
0,1	1,60116	4,64136	7,71387	10,79225	13,87370	16,95767
0,2	1,65773	4,66228	7,72654	10,80133	13,88078	16,96346
0,3	1,71025	4,68298	7,73916	10,81039	13,88783	16,96925
0,4	1,75920	4,70343	7,75172	10,81942	13,89488	16,97502
0,5	1,80496	4,72365	7,76423	10,82844	13,90192	16,98080
0,6	1,84783	4,74361	7,77668	10,83743	13,90895	16,98656
0,7	1,88809	4,76332	7,78907	10,84640	13,91597	16,99232
0,8	1,92599	4,78275	7,80138	10,85535	13,92298	16,99808
0,9	1,96172	4,80192	7,81364	10,86426	13,92997	17,00383
1,0	1,99546	4,82080	7,82581	10,87315	13,93695	17,00957
1,5	2,13950	4,91092	7,88553	10,91714	13,97163	17,03815
2,0	2,25200	4,99377	7,94309	10,96027	14,00588	17,06648
3,0	2,41545	5,13843	8,05101	11,04344	14,07284	17,12228
4,0	2,52755	5,25796	8,14874	11,12194	14,13734	17,17665
5,0	2,60860	5,35664	8,23632	11,19534	14,19904	17,22935
6,0	2,66962	5,43849	8,31431	11,26346	14,25771	17,28020
7,0	2,71706	5,50690	8,38355	11,32637	14,31321	17,32903
8,0	2,75491	5,56460	8,44500	11,38425	14,36551	17,37577
9,0	2,78576	5,61368	8,49958	11,43739	14,41463	17,42037
10,0	2,81136	5,65582	8,54816	11,48611	14,46066	17,46281
15,0	2,89325	5,79883	8,72517	11,67555	14,64938	17,64410
20,0	2,93711	5,88016	8,83397	11,80149	14,78392	17,78114
30,0	2,98290	5,96801	8,95735	11,95258	14,95489	17,96505
40,0	3,00652	6,01424	9,02431	12,03778	15,05550	18,07813
50,0	3,02090	6,04264	9,06603	12,09180	15,12062	18,15303
60,0	3,03059	6,06184	9,09442	12,12892	15,16589	18,20576
80,0	3,04280	6,08613	9,13052	12,17644	15,22433	18,27457
100,0	3,05018	6,10083	9,15246	12,20548	15,26030	18,31723

$Bi_0 = 50{,}0$

Bi_1	A_1	$-A_2$	A_3	$-A_4$	A_5	$-A_6$
0,0001	0,00000	0,00000	0,00000	0,00000	0,00000	0,00000
0,001	0,00002	0,00001	0,00000	0,00000	0,00000	0,00000
0,002	0,00005	0,00002	0,00001	0,00001	0,00000	0,00000
0,004	0,00010	0,00003	0,00002	0,00001	0,00001	0,00001
0,006	0,00015	0,00005	0,00003	0,00002	0,00002	0,00001
0,008	0,00020	0,00007	0,00004	0,00003	0,00002	0,00002
0,01	0,00025	0,00008	0,00005	0,00004	0,00003	0,00002
0,02	0,00050	0,00017	0,00010	0,00007	0,00005	0,00004
0,04	0,00099	0,00034	0,00020	0,00014	0,00011	0,00009
0,06	0,00146	0,00050	0,00030	0,00021	0,00016	0,00013
0,08	0,00191	0,00067	0,00040	0,00028	0,00022	0,00018
0,1	0,00235	0,00084	0,00050	0,00036	0,00027	0,00022
0,2	0,00439	0,00166	0,00100	0,00071	0,00054	0,00044
0,3	0,00617	0,00246	0,00149	0,00106	0,00082	0,00066
0,4	0,00776	0,00325	0,00198	0,00141	0,00109	0,00088
0,5	0,00918	0,00402	0,00247	0,00176	0,00136	0,00109

$Bi_0 = 50{,}0$

Bi_1	A_1	$-A_2$	A_3	$-A_4$	A_5	$-A_6$
0,6	0,01047	0,00478	0,00295	0,00211	0,00163	0,00131
0,7	0,01165	0,00551	0,00343	0,00246	0,00189	0,00153
0,8	0,01274	0,00623	0,00390	0,00281	0,00216	0,00174
0,9	0,01374	0,00694	0,00437	0,00314	0,00243	0,00196
1,0	0,01467	0,00762	0,00484	0,00348	0,00269	0,00218
1,5	0,01851	0,01080	0,00678	0,00516	0,00401	0,00325
2,0	0,02139	0,01359	0,00919	0,00678	0,00529	0,00430
3,0	0,02546	0,01816	0,01301	0,00983	0,00777	0,00635
4,0	0,02818	0,02167	0,01629	0,01261	0,01019	0,00832
5,0	0,03009	0,02439	0,01998	0,01513	0,01228	0,01029
6,0	0,03148	0,02651	0,02145	0,01738	0,01430	0,01197
7,0	0,03254	0,02829	0,02345	0,01938	0,01615	0,01364
8,0	0,03337	0,02956	0,02515	0,02115	0,01785	0,01520
9,0	0,03402	0,03067	0,02659	0,02272	0,01939	0,01665
10,0	0,03455	0,03158	0,02782	0,02410	0,02081	0,01800
15,0	0,03616	0,03439	0,03186	0,02898	0,02609	0,02336

20,0	0,03696	0,03576	0,03395	0,03175	0,02936	0,02694
30,0	0,03773	0,03704	0,03593	0,03450	0,03282	0,03099
40,0	0,03811	0,03761	0,03681	0,03574	0,03446	0,03301
50,0	0,03833	0,03793	0,03728	0,03641	0,03535	0,03414
60,0	0,03847	0,03813	0,03757	0,03682	0,03589	0,03482
80,0	0,03864	0,03836	0,03789	0,03726	0,03648	0,03558
100,0	0,03875	0,03849	0,03807	0,03750	0,03679	0,03596

$Bi_0 = 60,0$

Bi_1	μ_1	μ_2	μ_3	μ_4	μ_5	μ_6
0,0001	1,54512	4,63531	7,72593	10,81721	13,90937	17,00262
0,001	1,54569	4,63550	7,72604	10,81729	13,90943	17,00268
0,002	1,54633	4,63571	7,72617	10,81738	13,90951	17,00273
0,004	1,54760	4,63613	7,72642	10,81757	13,90964	17,00285
0,006	1,54886	4,63656	7,72668	10,81775	13,90979	17,00297
0,008	1,55013	4,63698	7,72694	10,81792	13,90993	17,00308
0,01	1,55139	4,63740	7,72719	10,81811	13,91007	17,00320
0,02	1,55768	4,63953	7,72846	10,81902	13,91078	17,00378
0,04	1,57010	4,64375	7,73101	10,82084	13,91219	17,00494
0,06	1,58234	4,64798	7,73355	10,82265	13,91361	17,00610
0,08	1,59437	4,65221	7,73609	10,82447	13,91502	17,00725
0,1	1,60621	4,65640	7,73863	10,82629	13,91644	17,00841
0,2	1,66280	4,67732	7,75130	10,83536	13,92350	17,01419
0,3	1,71536	4,69811	7,76392	10,84441	13,93056	17,01997
0,4	1,76435	4,71848	7,77648	10,85345	13,93761	17,02575
0,5	1,81014	4,73869	7,78899	10,86246	13,94465	17,03152
0,6	1,85306	4,75867	7,80144	10,87146	13,95168	17,03728
0,7	1,89338	4,77837	7,81382	10,88042	13,95869	17,04304
0,8	1,93133	4,79781	7,82614	10,88937	13,96569	17,04880
0,9	1,96712	4,81699	7,83839	10,89828	13,97269	17,05454
1,0	2,00093	4,83588	7,85057	10,90717	13,97966	17,06028
1,5	2,14526	4,92605	7,91029	10,95116	14,01434	17,08884
2,0	2,25805	5,00898	7,96738	10,99429	14,04858	17,11716
3,0	2,42205	5,15385	8,07586	11,07748	14,11552	17,17294
4,0	2,53458	5,27363	8,17369	11,15611	14,18003	17,22730
5,0	2,61599	5,37257	8,26140	11,22945	14,24175	17,28001
6,0	2,67730	5,45469	8,33954	11,29766	14,30045	17,33085
7,0	2,72498	5,52335	8,40895	11,36166	14,35599	17,37970
8,0	2,76302	5,58128	8,47057	11,41864	14,40834	17,42646
9,0	2,79405	5,63057	8,52531	11,47189	14,45752	17,47109
10,0	2,81979	5,67289	8,57406	11,52072	14,50362	17,51356
15,0	2,90215	5,81662	8,75177	11,71074	14,69276	17,69512
20,0	2,94627	5,89840	8,86108	11,83717	14,82772	17,83249
30,0	2,99235	5,98676	8,98512	11,98896	14,99036	18,01730
40,0	3,01611	6,03326	9,05247	12,07461	15,10043	18,13054
50,0	3,03059	6,06184	9,09442	12,12892	15,16589	18,20576
60,0	3,04034	6,08117	9,12299	12,16625	15,21137	18,25874
80,0	3,05262	6,10560	9,15929	12,21404	15,27014	18,32788
100,0	3,06005	6,12040	9,18137	12,24325	15,30630	18,37075

$Bi_0 = 60,0$

Bi_1	A_1	$-A_2$	A_3	$-A_4$	A_5	$-A_6$
0,0001	0,00000	0,00000	0,00000	0,00000	0,00000	0,00000
0,001	0,00002	0,00001	0,00000	0,00000	0,00000	0,00000
0,002	0,00004	0,00001	0,00001	0,00001	0,00000	0,00000
0,004	0,00008	0,00003	0,00002	0,00001	0,00001	0,00001
0,006	0,00013	0,00004	0,00002	0,00002	0,00001	0,00001
0,008	0,00017	0,00006	0,00003	0,00002	0,00002	0,00001
0,01	0,00021	0,00007	0,00004	0,00003	0,00002	0,00002
0,02	0,00042	0,00014	0,00008	0,00006	0,00005	0,00004
0,04	0,00082	0,00028	0,00017	0,00012	0,00009	0,00007
0,06	0,00121	0,00042	0,00025	0,00018	0,00014	0,00011
0,08	0,00159	0,00056	0,00034	0,00024	0,00018	0,00015
0,1	0,00196	0,00070	0,00042	0,00031	0,00023	0,00019
0,2	0,00366	0,00138	0,00084	0,00059	0,00046	0,00037
0,3	0,00514	0,00206	0,00125	0,00089	0,00069	0,00056
0,4	0,00647	0,00271	0,00166	0,00118	0,00092	0,00074
0,5	0,00766	0,00336	0,00207	0,00148	0,00114	0,00092
0,6	0,00874	0,00399	0,00247	0,00177	0,00137	0,00111
0,7	0,00972	0,00460	0,00287	0,00206	0,00160	0,00129
0,8	0,01063	0,00520	0,00327	0,00235	0,00182	0,00148
0,9	0,01146	0,00579	0,00366	0,00264	0,00204	0,00166
1,0	0,01224	0,00636	0,00404	0,00292	0,00227	0,00184
1,5	0,01545	0,00902	0,00592	0,00433	0,00338	0,00275
2,0	0,01786	0,01135	0,00769	0,00568	0,00446	0,00364
3,0	0,02127	0,01518	0,01089	0,00825	0,00655	0,00538
4,0	0,02354	0,01811	0,01364	0,01059	0,00852	0,00705
5,0	0,02514	0,02039	0,01598	0,01270	0,01035	0,00864
6,0	0,02631	0,02217	0,01797	0,01459	0,01205	0,01014
7,0	0,02720	0,02359	0,01965	0,01628	0,01362	0,01155
8,0	0,02789	0,02473	0,02108	0,01777	0,01505	0,01288
9,0	0,02844	0,02566	0,02229	0,01909	0,01636	0,01411
10,0	0,02889	0,02643	0,02333	0,02026	0,01755	0,01526
15,0	0,03024	0,02879	0,02672	0,02439	0,02203	0,01982

20,0	0,03191	0,02995	0,02849	0,02672	0,02489	0,02286
30,0	0,03156	0,03102	0,03017	0,02905	0,02775	0,02632
40,0	0,03187	0,03150	0,03091	0,03011	0,02915	0,02805
50,0	0,03216	0,03177	0,03131	0,03068	0,02991	0,02912
60,0	0,03218	0,03194	0,03155	0,03102	0,03037	0,02960
80,0	0,03232	0,03214	0,03183	0,03140	0,03088	0,03025
100,0	0,03241	0,03225	0,03197	0,03160	0,03114	0,03059

$Bi_0 = 80,0$

Bi_1	μ_1	μ_2	μ_3	μ_4	μ_5	μ_6
0,0001	1,55147	4,65430	7,75732	10,86065	13,96436	17,06856
0,001	1,55204	4,65449	7,75744	10,86072	13,96442	17,06861
0,002	1,55268	4,65469	7,75757	10,86082	13,96449	17,06866
0,004	1,55395	4,65512	7,75782	10,86100	13,96463	17,06878
0,006	1,55522	4,65555	7,75808	10,86118	13,96478	17,06890
0,008	1,55649	4,65597	7,75833	10,86137	13,96491	17,06902
0,01	1,55775	4,65639	7,75858	10,86155	13,96506	17,06913
0,02	1,56404	4,65852	7,75986	10,86246	13,96577	17,06971
0,04	1,57646	4,66274	7,76240	10,86427	13,96718	17,07087
0,06	1,58869	4,66697	7,76495	10,86609	13,96860	17,07202
0,08	1,60073	4,67119	7,76749	10,86791	13,97001	17,07318
0,1	1,61258	4,67539	7,77003	10,86973	13,97142	17,07434
0,2	1,66919	4,69631	7,78269	10,87883	13,97848	17,08012
0,3	1,72179	4,71700	7,79531	10,88785	13,98554	17,08590
0,4	1,77082	4,73747	7,80788	10,89688	13,99258	17,09167
0,5	1,81667	4,75769	7,82038	10,90590	13,99962	17,09744
0,6	1,85966	4,77766	7,83283	10,91489	14,00664	17,10320
0,7	1,90004	4,79738	7,84521	10,92385	14,01366	17,10896
0,8	1,93806	4,81683	7,85754	10,93279	14,02066	17,11471
0,9	1,97392	4,83601	7,86979	10,94171	14,02766	17,12045
1,0	2,00780	4,85491	7,88197	10,95060	14,03463	17,12618
1,5	2,15251	4,94515	7,94171	10,99459	14,06920	17,15474
2,0	2,26568	5,02819	7,99931	11,03772	14,10353	17,18305

$Bi_0 = 80,0$

Bi_1	μ_1	μ_2	μ_3	μ_4	μ_5	μ_6
3,0	2,43035	5,17332	8,10739	11,12093	14,17048	17,23882
4,0	2,54344	5,29343	8,20535	11,19952	14,23500	17,29317
5,0	2,62531	5,39271	8,29323	11,27304	14,29675	17,34588
6,0	2,68698	5,47516	8,37157	11,34135	14,35550	17,39674
7,0	2,73495	5,54414	8,44118	11,40447	14,41111	17,44562
8,0	2,77325	5,60234	8,50301	11,46258	14,46353	17,49243
9,0	2,80448	5,65190	8,55798	11,51598	14,51280	17,53710
10,0	2,83041	5,69447	8,60693	11,56496	14,55900	17,57964
15,0	2,91336	5,83910	8,78555	11,75573	14,74870	17,76158
20,0	2,95781	5,92145	8,89553	11,88281	14,88422	17,89941
30,0	3,00425	6,01046	9,02041	12,03551	15,05676	18, 8473
40,0	3,02821	6,05732	9,08824	12,12174	15,15846	18,19889
50,0	3,04280	6,08613	9,13052	12,17644	15,22433	18,27457
60,0	3,05262	6,10569	9,15929	12,21404	15,27014	18,32788
80,0	3,06501	6,13023	9,19588	12,26218	15,32932	18,39748
100,0	3,07249	6,14514	9,21813	12,29161	15,36573	18,44064

$Bi_0 = 80$

Bi_1	A_1	$-A_2$	A_3	$-A_4$	A_5	$-A_6$
0,0001	0,00000	0,00000	0,00000	0,00000	0,00000	0,00000
0,001	0,00002	0,00000	0,00000	0,00000	0,00000	0,00000
0,002	0,00003	0,00001	0,00001	0,00000	0,00000	0,00000
0,004	0,00006	0,00002	0,00001	0,00001	0,00001	0,00001
0,006	0,00010	0,00003	0,00002	0,00001	0,00001	0,00001
0,008	0,00013	0,00004	0,00002	0,00002	0,00001	0,00001
0,01	0,00016	0,00005	0,00003	0,00002	0,00002	0,00001
0,02	0,00031	0,00011	0,00006	0,00004	0,00003	0,00003
0,04	0,00062	0,00021	0,00013	0,00009	0,00007	0,00006
0,06	0,00091	0,00032	0,00019	0,00014	0,00010	0,00008
0,08	0,00120	0,00042	0,00025	0,00018	0,00014	0,00011
0,1	0,00147	0,00052	0,00032	0,00022	0,00017	0,00014
0,2	0,00274	0,00104	0,00063	0,00045	0,00035	0,00028
0,3	0,00386	0,00154	0,00094	0,00067	0,00052	0,00042
0,4	0,00486	0,00204	0,00125	0,00089	0,00069	0,00056
0,5	0,00575	0,00252	0,00156	0,00112	0,00087	0,00070
0,6	0,00656	0,00299	0,00186	0,00134	0,00104	0,00084
0,7	0,00730	0,00346	0,00216	0,00156	0,00121	0,00098
0,8	0,00798	0,00391	0,00246	0,00177	0,00138	0,00112
0,9	0,00861	0,00435	0,00275	0,00199	0,00155	0,00126
1,0	0,00920	0,00478	0,00304	0,00221	0,00172	0,00140
1,5	0,01161	0,00678	0,00446	0,00327	0,00256	0,00209
2,0	0,01343	0,00853	0,00579	0,00429	0,00338	0,00277
3,0	0,01630	0,01142	0,00820	0,00623	0,00497	0,00410
4,0	0,01771	0,01363	0,01028	0,00800	0,00646	0,00537
5,0	0,01892	0,01535	0,01205	0,00960	0,00786	0,00659
6,0	0,01981	0,01670	0,01355	0,01104	0,00915	0,00774
7,0	0,02048	0,01777	0,01482	0,01231	0,01034	0,00882
8,0	0,02100	0,01863	0,01590	0,01345	0,01143	0,00983
9,0	0,02142	0,01934	0,01682	0,01445	0,01243	0,01077
10,0	0,02175	0,01992	0,01761	0,01534	0,01334	0,01165
15,0	0,02278	0,02171	0,02019	0,01848	0,01676	0,01517

20,0	0,02328	0,02259	0,02154	0,02026	0,01888	0,01749
30,0	0,02378	0,02340	0,02281	0,02204	0,02114	0,02015
40,0	0,02401	0,02377	0,02338	0,02285	0,02222	0,02149
50,0	0,02415	0,02397	0,02368	0,02329	0,02280	0,02223
60,0	0,02424	0,02410	0,02387	0,02355	0,02316	0,02269
80,0	0,02435	0,02425	0,02408	0,02384	0,02355	0,02319
100,0	0,02442	0,02433	0,02419	0,02400	0,02375	0,02345

$Bi_0 = 100,0$

Bi_1	μ_1	μ_2	μ_3	μ_4	μ_5	μ_6
0,0001	1,55531	4,66578	7,77638	10,88714	13,99809	17,10931
0,001	1,55588	4,66597	7,77650	10,88721	13,99815	17,10936
0,002	1,55652	4,66618	7,77663	10,88731	13,99823	17,10942
0,004	1,55779	4,66661	7,77688	10,88749	13,99837	17,10954

$Bi_0 = 100,0$

Bi_1	μ_1	μ_2	μ_3	μ_4	μ_5	μ_6
0,006	1,55906	4,66704	7,77714	10,88767	13,99851	17,10965
0,008	1,56033	4,66746	7,77739	10,88786	13,99865	17,10976
0,01	1,56159	4,66788	7,77764	10,88804	13,99879	17,10988
0,02	1,56788	4,67000	7,77892	10,88895	13,99950	17,11046
0,04	1,58030	4,67423	7,78146	10,89076	14,00092	17,11162
0,06	1,59254	4,67846	7,78400	10,89258	14,00233	17,11278
0,08	1,60457	4,68268	7,78654	10,89439	14,00375	17,11393
0,1	1,61642	4,68688	7,78908	10,89622	14,00516	17,11509
0,2	1,67305	4,70780	7,80175	10,90528	14,01222	17,12087
0,3	1,72567	4,72849	7,81436	10,91434	14,01927	17,12665
0,4	1,77474	4,74896	7,82693	10,92337	14,02632	17,13242
0,5	1,82062	4,76919	7,83944	10,93238	14,03336	17,13819
0,6	1,86364	4,78916	7,85188	10,94138	14,04038	17,14395
0,7	1,90406	4,80888	7,86427	10,95034	14,04739	17,14970
0,8	1,94212	4,82834	7,87659	10,95928	14,05440	17,15546
0,9	1,97803	4,84752	7,88885	10,96820	14,06139	17,16119
1,0	2,01195	4,86642	7,90102	10,97709	14,06836	17,16693
1,5	2,15690	4,95672	7,96078	11,02107	14,10302	17,19548
2,0	2,27029	5,03981	8,01849	11,06421	14,13726	17,22379
3,0	2,43536	5,18510	8,12653	11,14745	14,20421	17,27955
4,0	2,54879	5,30540	8,22458	11,22607	14,26875	17,33392
5,0	2,63092	5,40489	8,31256	11,29964	14,33053	17,38663
6,0	2,69282	5,48754	8,39102	11,36801	14,38930	17,43752
7,0	2,74098	5,55671	8,46077	11,43121	14,44495	17,48642
8,0	2,77942	5,61510	8,52273	11,48941	14,49743	17,53325
9,0	2,81078	5,66482	8,57782	11,54289	14,54676	17,57796
10,0	2,83682	5,70753	8,62699	11,59196	14,59302	17,62054
15,0	2,92013	5,85271	8,80608	11,78321	14,78307	17,80273
20,0	2,96479	5,93540	8,91647	11,91069	14,91896	17,94086
30,0	3,01144	6,02482	9,04186	12,06396	15,09207	18,12671
40,0	3,03551	6,07189	9,11999	12,15055	15,19415	18,24126
50,0	3,05018	6,10083	9,15246	12,20548	15,26030	18,31723
60,0	3,06005	6,12049	9,18137	12,24325	15,30630	18,37075
80,0	3,07249	6,14514	9,21813	12,29161	15,36573	18,44064
100,0	3,08002	6,16013	9,24049	12,32118	15,40231	18,48400

$Bi_0 = 100,0$

Bi_1	A_1	$-A_2$	A_3	$-A_4$	A_5	$-A_6$
0,0001	0,00000	0,00000	0,00000	0,00000	0,00000	0,00000
0,001	0,00001	0,00000	0,00000	0,00000	0,00000	0,00000
0,002	0,00002	0,00001	0,00000	0,00000	0,00000	0,00000
0,004	0,00005	0,00002	0,00001	0,00001	0,00001	0,00000
0,006	0,00008	0,00002	0,00002	0,00001	0,00001	0,00001
0,008	0,00010	0,00003	0,00002	0,00001	0,00001	0,00001
0,01	0,00013	0,00004	0,00002	0,00002	0,00001	0,00001
0,02	0,00025	0,00008	0,00005	0,00004	0,00003	0,00002
0,04	0,00049	0,00017	0,00010	0,00007	0,00006	0,00005
0,06	0,00073	0,00025	0,00015	0,00011	0,00008	0,00007
0,08	0,00096	0,00034	0,00020	0,00014	0,00011	0,00009
0,1	0,00118	0,00042	0,00025	0,00018	0,00014	0,00011
0,2	0,00229	0,00083	0,00050	0,00036	0,00028	0,00023
0,3	0,00339	0,00124	0,00075	0,00054	0,00042	0,00034
0,4	0,00389	0,00163	0,00100	0,00072	0,00056	0,00046
0,5	0,00460	0,00202	0,00125	0,00090	0,00070	0,00057
0,6	0,00525	0,00240	0,00149	0,00107	0,00083	0,00068
0,7	0,00585	0,00277	0,00173	0,00125	0,00097	0,00079
0,8	0,00639	0,00313	0,00197	0,00142	0,00111	0,00091
0,9	0,00690	0,00348	0,00221	0,00160	0,00125	0,00102
1,0	0,00737	0,00383	0,00244	0,00177	0,00138	0,00113
1,5	0,00930	0,00543	0,00357	0,00262	0,00206	0,00169
2,0	0,01076	0,00683	0,00464	0,00345	0,00272	0,00224
3,0	0,01282	0,00915	0,00658	0,00500	0,00400	0,00331
4,0	0,01420	0,01092	0,00824	0,00643	0,00520	0,00433
5,0	0,01517	0,01230	0,00966	0,00771	0,00632	0,00531

$Bi_e = 100.0$

Bi_s	A_1	$-A_2$	A_3	$-A_4$	A_5	$-A_6$
6,0	0,01588	0,01339	0,01087	0,00887	0,00736	0,00624
7,0	0,01642	0,01425	0,01190	0,00989	0,00832	0,00711
8,0	0,01684	0,01494	0,01276	0,01081	0,00920	0,00793
9,0	0,01717	0,01551	0,01350	0,01161	0,01001	0,00869
10,0	0,01744	0,01598	0,01414	0,01233	0,01074	0,00940
15,0	0,01827	0,01742	0,01622	0,01486	0,01350	0,01223
20,0	0,01867	0,01813	0,01730	0,01630	0,01522	0,01413
30,0	0,01907	0,01878	0,01833	0,01774	0,01705	0,01629
40,0	0,01926	0,01908	0,01879	0,01839	0,01792	0,01737
50,0	0,01937	0,01924	0,01903	0,01875	0,01839	0,01793
60,0	0,01945	0,01935	0,01918	0,01896	0,01868	0,01835
80,0	0,01954	0,01947	0,01935	0,01920	0,01900	0,01876
100,0	0,01959	0,01954	0,01945	0,01932	0,01916	0,01897

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